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ABSTRACT

The implimentation of a work-study program in a rural, depressed area, the operation of the program, and evaluation are discussed in the first of six papers on vocational education for the retarded. The sheltered workshop at the Kurtz Training Center in Pennsylvania is described with a focus on promoting self image and adjustment. A 6-year secondary program for students with IQ's of 80 and below, located in a self-contained highschool, is considered. Also examined are two aspects of work aptitudes and prevocational evaluation in work-study programs. (RJ)

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Vocational Education and Work Study Programs

Papers Presented at The
48th Annual International Convention
The Council for Exceptional Children
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Work Experience for Educable Mentally Retarded High School Students on the Edge of a Metropolis - In a Rural Setting

Charles C. Klamer
Ashtabula County Board of Education
Jefferson, Ohio

Opportunity has been provided for the author to initiate and implement the work-study phase of a total program for educable mentally retarded students at a county level involving four local school districts. The Ashtabula County School's Area Program for Educational Improvement (APFEI) Work-Study phase was organized by incorporating the Ohio Department of Special Education Work-Study recommendations into a Title III ESEA Project.

Ashtabula County is situated in the extreme northeast corner of Ohio. It is bordered on the north by Lake Erie; on the east by Pennsylvania. The 720 square-mile county is approximately 50 miles from Cleveland and 30 miles from Erie, Pennsylvania. The county school system is composed of four local school districts, of which three are of a rural-depressed nature, while the fourth one is an industrial-rural combination.

When Project APFEI was begun in August, 1968, two of the districts had previously had senior-high classes for the E.M.R. students, with one having some work-study. While one of the other districts did not have any secondary program (7-12), the fourth district had only a program for the E.M.R.s through the 9th grade. The task was to put into operation a complete work-study program, in four separate districts, within a matter of weeks.

It is the intent of the author to describe the development of a work-study program in a large geographical area of Ohio, which can best be characterized as rural-depressed. The format will be a brief description of the work-study operation, procedure of implementation, and evaluation of the program.

The work-study phase begins at the primary elementary level. A terminal objective for teachers of all levels is to identify and become knowledgeable of the world-of-work that their students will be entering. This world is much different from that of a teacher's. The work-study phase of the program begins the first day a student enters the special class, hopefully this is during the first year of school at age six. Although the teacher contributes much information, the psychologist and speech therapist are also consulted when recommending vocational guidance for the elementary students. The elementary teacher is given the information so that she can encourage the youngster to investigate certain job families for which he demonstrates ability.

Often one sees students performing "work" within classrooms in a very haphazard manner. The author thinks that this experience could be more meaningful if expected outcomes were stated. Project APFEI elementary teachers assign particular duties to students. Usually these are to be carried out daily. Students are evaluated upon their performance in accord to general job traits, while also having trial work experiences. While the teacher assumes all supervisory duties, whether students perform duties in or outside the classroom, the coordinator serves as a consultant.

Within this structure, the elementary teacher prepares the students in numerous ways. The concepts of responsibility, various jobs and job families, role of the supervisor (boss), introduction to application procedures, i.e. necessary information for forms, personal grooming habits, punctuality, and good attendance are stressed. An example of elementary teachers becoming cognizant of an end objective of their students is when they require him, whenever capable, to write (cursive or manuscript) his full name i.e. JAMES DILLY SMITH.

The junior high (7th and 8th grade) level of work-study becomes more intense. Although vocational adjustment is stressed at all levels, it now becomes a greater integrated part of the curriculum. Nearly all the academics are correlated to the world-of-work and adult-life adjustment. Studies of job families and positions in Ashtabula County industries are expolred, which includes many field trips. Exploration of what is a job is an integral part of their programming. The junior high students gain additional work experience which corresponds with their increased abilities. This experience is usually performed within the room, but may extend to other areas of the school. The teacher is responsible for the supervision while the students are directly responsible to her. Classwork projects are utilized at this level. The coordinator serves as a consultant while spending the most time with individual students. One premise of Project APFEI is that molding of accepted good working traits necessitates time. It is very late to begin molding good work habits in the ninth or tenth year of school.

The ninth grade student is faced with a more detailed and intensive program geared towards the world-of-work. The study of jobs and job families is intensified in classroom work, while the number of field trips to local factories and businesses are increased to provide the students with knowledge concerning numerous jobs, rather than the manufacturer's product. It must be considered that these people tend to remain in the same geographical area. This situation dictates that the students learn about and are given preparation for jobs in their community. Each student is placed in an in-school work-station depending upon his ability, interests, and the availability of such a station. The student is given responsibility for completion of the job. He is responsible to the job area supervisor, usually a member of the non-professional staff such as cook, custodian, librarian aid, ect. The objective is to have the student demonstrate his ability to do a complete and satisfactory job. The trainee is both supervised and evaluated by the job area supervisor. This evaluation is important for determining programming and future placement of the student. The teacher is available for continuous assistance, while the coordinator serves as a resource person.

The sophomore trainee serves on-the-job training in the school. Similar to the Freshmen trainee, the objective is to provide both an additional job experience and to further develop positive general work traits. It is important that well-defined objectives for good work habits be met through this in-school training phase. If extreme caution is not taken, this part can have adversive effects on the work habits of students. A student can learn poor work habits from a poorly controlled situation. Although the full-time work-study coordinator has overall responsibility, the high school teacher serves as the immediate overseer of this phase, while the trainee is directly responsible to the job area supervisor. Coordinator, teacher, and supervisor must establish and maintain a close dialogue. The in-school supervisor can be a tremendous asset preparing the student for community work experience.

As early as possible in the sophomore year extensive vocational evaluations are conducted. The General Aptitude Test Battery (G.A.T.B.) is used, while the Ohio Bureau of Employment Service lends assistance to the coordinator interpreting the test results. Interest scales are used in conjunction with aptitude evaluations.

The junior student engages in half-time classroom work while training half-time on-the-job. Unique circumstances dictate that students not be scheduled to a rigorous one-half day of training and one-half day of classwork. Several schedule variations are necessary; two or three consecutive full days of employment, alternate days, and in some circumstances a student reports to school at noon while training from 4 to 8 p.m. each day. It is extremely important that the school administration cooperates by approving such flexible schedules. The community work stations are carefully screened by the work-study coordinator. While considering the factors of available job stations, employers hours of need for a trainee, and transportation, the student's aptitude and interests are given the most weight. The employer is also carefully evaluated. The building principal, teacher, and parents have been informed of the employment details, in writing, prior to the student beginning his training program.

Upon the initial placement of a student in a community work station, the coordinator makes supervision visits to the job site as pre-estimated and/or upon the employers beckon. The first call is usually within a week of the starting date, however, it could be sooner if the coordinator deems necessary. Two to four consecutive weekly visits are generally sufficient, with bi-weekly supervision visitations replacing them. The supervision is flexible to accommodate the individual needs. Although the supervision checks may be tapered, the counseling sessions may be increased or decreased, again, depending upon the need.

Supervision consists of the coordinator speaking with the immediate supervisor of the trainee. While checking the student's progress with the supervisor, the coordinator observes the student working. The coordinator also contacts the student while at the establishment. When necessary, the coordinator directs the student on the job, however, normally suggestions are channeled through the supervisor, Occasionally triangular conferences; sutdent, supervisor, and coordinator are held at the place of employment. This author is extremely cautious not to infringe upon the employer's time. Consumption of an excess amount of the trainee's and supervisor's time can also have adverse effects upon the trainee's relationships with fellow employees. It has been necessary for this coordinator to ask the supervisor very specific questions concerning the student's performance. The supervisors become attached to the student and are reluctant to "tell on him." This coordinator's work has always been based upon helping the student improve. It is advantageous that counseling sessions closely follow the supervision checks. Using this method, the student can be informed of his progress and programming can begin to compensate for the student's shortcomings. These sessions include reinforcing the student for demonstration of acceptable work traits and making suggestions for continued improvement. This involves specifically helping the student to think through each situation of difficulty.

As a student moves from his junior to the senior year, he finds himself in a unique program provided under the auspices of the Ohio Division of Special Education. Seniors enrolled in the E.M.R. program train full-time on-the-job. This means that the seniors spend a minimum of 40 hours a week training at least part of the school year. During this period, the students attend occupationally oriented seminars in the evenings. These sessions emphasizing adjustment in adult life are conducted by the coordinator using many outside resource people. The methods of supervision and counseling are similar to the juniors, but with more emphasis on self-responsibility. The senior year approximates the junior except for the few changes stated above. Upon successful completion of the prescribed senior year, a student is awarded a diploma at graduation exercises.

Evaluation is a multi-phase operation. Each six weeks, a 13 trait rating scale is completed by both the trainee and the supervisor. At this time, letters of evaluation are sent to the parents. Quarterly (September, December, March, and June), high school teachers, students, employers, and parents complete a five-point rating scale. The final phase of the formal evaluative techniques involves the coordinator's completions of the 13 trait scale bi-anually. Finally, criticisms and recommendations, encouraged from all concerned complete the total evaluation process.

While the previous was the description of the work-study operation, the procedures necessary to implement that program will be discussed. The program was initiated by careful planning of the strategy to be used. After careful selection of the business and industrial personnel to be approached, the work-study coordinator personally contacted them to explain the new "monster" which suddenly appeared in Ashtabula County. Most of the persons contacted had a difficult time grasping this new concept of education. The method used was a "no-previous-appointment, walk-in type." The only time appointments were scheduled was whenever there was no other way to get a "foot in the door." Much success has been found with this method. Occasionally six months will elapse before an employer consents to participate. During this period, the coordinator makes short visits to say "hi" or wish them a happy holiday. Careful judgment of optimum times for visitations must be practiced. One can observe this with individual people and establishments. Generally, Friday afternoons and Monday mornings are poor choices.

After interpreting the program to the owner, personnel director, supervisor, or other officials, the coordinator surveys the business or industry for potential job stations for E.M.R. students. Included in the interpretation are the requirements for participating. The employer must 1) pay the trainee the minimum wage as set by law, 2) provide workman's compensation or an equal type of insurance coverage, and 3) cooperate with the coordinator with supervison checks and completion of forms. It is also made clear that sympathy is not recommended, but empathy is requested. It behooves the coordinator to place students in a position where they can succeed. Although a job survey sheet is completed, the coordinator usually has a particular student in mind when approaching a businessman. The job survey form is a report of pertinent information concerning the employer, the job, and the working conditions. This is kept on file for future reference. It is suggested that the employer interview the student prior to employing him as a trainee. The student, thus, is running the full risk of being "turned down" by an employer. The objective is to make the student responsible for his behavior, while providing the employer with the final decision, which he will always have. At the point of the interview, the coordinator becomes a "consultant" to both the student and employer. It is anticipated that the employer and student will make the necessary arrangements to have the student begin his training. This is a method used to force the student into accepting responsibility while assistance is near. The coordinator learns of the details from the employer.

When placing a student, the interest and ability are valued as extremely important. The teachers and coordinator must provide guidance and encouragement for a student to pursue a line of work for which he demonstrates ability, while it behooves the coordinator to match the student's abilities (aptitudes) with his interests.

In a rural situation many factors must be considered, in addition to interest and ability. Transportation influences the placement considerably since the students are bused to school. Thus priority is given to students for obtaining driver's licenses. Ohio law mandates 16-18 year olds to have a state-recognized driver's course to secure a license. After receiving a driver's license, use of their parent's car or purchase of their own is necessary to ease this problem. Although the coordinator is responsible for arranging transportation, he does not make a practice of providing it on a regular basis. Methods of transportation which have been utilized in Ashtabula County are: parents forming car pools or transporting individual students; students driving parent's car, student's driving own car, transporting fellow students, and walking or riding a bicycle; and relatives and neighbors providing transportation. Much consideration has been given to purchasing a mini-bus, however, it will be impossible to assist the students in more than two of the four districts because of the colossal geographical area. The easiest method of solving the transportation problem is to consider it prior to making the placement.

The matter is further complicated by the few number of available businesses. Since there are not many businesses, percentage of participants has to be large. When organizations are small, the fine division of labor is not present. This decreases the availability of many of the lesser skilled positions. Many times the more skilled people perform these as secondary or filler operations. Organized labor has also caused hardships in a few cases. To counteract the above circumstances, the coordinator has worked diligently in establishing a close dialogue with present participants while cultivating the relationships with prospective employers and hopefully swaying labor leaders.

Many para-professional agencies have also assisted with the students in the work-study program. All ninth graders are referred to the Bureau of Vocational Rehabilitation. Ashtabula County in cooperation with two neighboring counties shares a counselor who has training in mental retardation; her caseload is one composed of all retardates. The counselor and coordinator hold periodic conferences to discuss needs and programs for students. The cooperation has been excellent. The Ohio Bureau of Employment Services assists with aptitude testing and provides leads for possible prospective employers. The County Welfare Department, along with the Children Services Board, has cooperated whenever trainees are under their jurisdiction.

The coordinator initially sought to get the businessmen and labor leaders involved with training of the E.M.R. students. The coordinator determined through process of elimination, the various influential industrial and labor leaders, and went about contacting them personally. A group of industrial leaders composed a panel for a recent workshop which was presented to primary through high school teachers of the E.M.R. Organized labor is presently arranging a program to present to the senior high classes. Officers of organized labor locals of each school districts are involved with the above. The business agents of various trade unions have also been instrumental in assisting with the program. The push now must come at the small locals in the manufacturing plants. The idea of having them make a presentation to high school students broadens the student's experiences and, possibly more important, gets the labor union local members involved. The coordinator has also solicited the assistance of management organizations.

Interpretation of the work-study program interweaves with the all-important publicity aspect. The author noticed that interpretation of the program to pupils, the first year, was extremely difficult. Most reacted in the typical fashion of a retardate - afraid of anything new and different from the past. It was also difficult for the students to gain confidence and trust in both a new teacher and a new coordinator. Because they had never heard nor seen the coordinator, nor had any work-study programs been in the schools prior to the 1968-69 school term, they were leery of another teacher trying to "push them around." Extreme caution and sensitiveness were used while relying on the time element to persuade them to participate. Work experience is an integral part of the high school E.M.R.'s program in the state of Ohio. In September of 1969, the second year of operation, the students were quite excited and anxious for placement. Because of the infancy of the program, there are a few cases which still necessitate much interpretation and reinterpretation to parents and students prior to placement.

To encourage the parents to exercise positive influence upon students, good public relations must come early and be intensive. This coordinator makes home visits with both parents in attendance just prior to placement. At this time, the program, regulations, and practices are interpreted to the parents. (See page 12). An anticipated procedure in the future will be a home visitation by the coordinator upon a student entering the high school program. The coordinator is easily accessible to the parents. The result has been quite productive without parents taking advantage of the opportunity.

One criterion for an effective work-study program is for the soldiers (teachers) to have a thorough knowledge of their responsibility. A work-study coordinator sells and services the product (students) that the teachers have been producing for ten years. The teachers, at all levels, should have a concept of the world-of-work with which their students will become involved. General education teachers should be informed concerning the objectives of the work-study program. They must realize that these students can become productive contributing citizens. Because they are members of the total education program, general education teachers can be detrimental in the community whenever misinformed. Often lay people in a community consider a teacher's opinion valid concerning all school affairs.

Another group which must be knowledgeable of the work-study program are those in command (administrators). Usually, the superintendent wants to be informed concerning major events, however, it has been this author's experience that the everyday housekeeping chores are to be completed with the building principals and/or the guidance counselors. Pay verbal token to the superintendents, thus permitting them to deal with their more important affairs, but thoroughly indoctrinate the building principal concerning the program and what he can expect from the coordinator. The same procedure should be done with the guidance counselor, whether or not he has any direct operations with the coordinator. For the most efficient results, the principal, counselor, coordinator, and classroom teacher must coordinate their efforts. A good coordinator can do much to abet an excellent working relationship. Again, the members of the local board of education can assist in selling the work-study program. A presentation at a board meeting and numerous informal short comments can have these men and women aggressively selling the program to the total community.

Although talks to large organizations have not been extremely effective, the procedure has been to speak to businessmen's organizations such as: Chamber of Commerce, Jaycees, Merchant's

Association, etc; service organizations as: Rotary, Lions, and Optimists, and any other willing organizations. Most of the organizations are looking for programs. This coordinator has found much success with the more informal methods of disseminating information. The curious people in a small community provide a natural situation in newspapers, shops, restaurants, drug stores, barber shops, beauty shops, and soda fountains. These are usually one to one or small group sessions where one can show enthusiasm and exuberance about these students and the total work-study program.

Effectiveness of this program can best be illustrated by the results achieved by the students. Although the number of students in the work-study program has decreased rapidly during the 1969-70 school year, six of the seven "drop-outs" are currently employed. In January, 1970, one senior male married, a general education graduate; and another one became formally engaged to a general education senior. Most of the young men have a steady girl. While all three (males) of the first year graduates are presently employed, two have changed employers from the one they served as a trainee. One is married with a small child, he married a non-special education student. Two of the 1969 graduates rent apartments. While two have remained in Ashtabula County, one has moved to Cleveland, approximately 50 miles away.

The wage range for the 1969-70 year has been high, $1.30 to $3.00 per hour, with only one student earning under $1.60 per hour. The earned average wage for the 1968-69 school year was $1.84 per hour, with approximately the same anticipated for the 1969-70 school year.

Implications upon organizing a work-study program seem to be refinement of the newly implemented APFEI work-study program. The task the first two years was to place students into the world-of-work. Now, the methods, means, and procedures for the activity must be refined. This coordinator considers important the intense development of systematically determining interests and aptitudes with additional pre-occupational exposure and actual experiences.

APPENDIX I

Number of Seniors Graduated from the Total Number as of September 15

	Buckeye[5]	Grand Valley[5]	Jefferson[4]	Pymatuning Valley
1968-69	0-0	0-0	1-1	2-2
[3]1969-70	4-6[1]	2-3[2]	2-2	0-1[2]

[1] One student withdrew - the other student has completed his junior work experience, however, he wants to work in the program next year.

[2] Female, marriage was reason for withdrawal from school. Both had had two work experiences.

[3] Seven who graduated were 19 years of age or over - only one student was 18 years of age.

[4] 1968-69 First year students graduated from special education program.

[5] 1969-70 First year students graduated from special education.

APPENDIX II

HOURS AND WAGES OF STUDENTS

September 1, 1968 - June 30, 1969

	Student	Hours	Wages
	A	674	$ 579.20
	B	465	444.76
	C	567	966.00
	D	640	1,165.00
	E	360	576.00
	F	725	1,375.00
	G	1516	3,443.00
	H	1179	2,735.65
	I	523	895.00
	J	1460	3,172.00
	K	720	1,188.00
	L	232	371.20*
	M	65	172.00**
	N	275	381.75
	O	650	1,040.00
TOTALS	15	10011	$18,420.24

* Terminated by coordinator
** Student quit the job

Average hourly wage - $1.84

APPENDIX III

WORK STATIONS

Tire Man

Tire Man

Material Handler

Punch Press Operator

Animal Caretaker

Sausage Stuffer and Packer

Lumber Mill Laborer

Greenhouse Worker

Materials Handler

Grinding Machine Operator

Spring Bumping Machine Operator

Warehouse Dock Worker

Materials Checker (Receiving)

Envelope Stuffer in Billing Office

Millwright Helper

Repairman (Maintenance)

Mechanic's Helper

Stockboy

Meatcutter Trainee

Stockboy

General Clothing Worker

Ship and Dock Worker

Stone Bagger

Truck Driver

Bicycle Repairman

Stockboy

WORK-STUDY PROGRAM

APFEI TITLE III ESEA

ASHTABULA COUNTY SCHOOLS

RATING BY:

Trainee____________________ Employer____________________

Job____________________ Coordinator____________________

Business____________________ Student____________________

The purposes for rating students:

1. To help the trainee be aware of his limitations and thus be in a position to make improvements.

2. To aid the coordinator in selecting specific areas of the job training process which need additional classroom discussion and/or practice.

Employer: Please be frank in your rating. If the rating is negative, comment on the contributing factors.

Trait	Excellent	Good	Fair	Poor	Improving	Not improving
Appearance						
Courtesy						
Punctuality						
Follows Directions						
Does more than asked						
Accuracy						
Cooperates with other employees						
Reaction to criticism						
Self-confidence						
Care of materials						
Care of equipment						
Attendance						
Attitude						

____________________ ____________________ ____________________

Rated by Position Date

Please make suggestions for improvement of student on the back.

April 21, 1970

Mr. and Mrs. Sam Stitston
Route #294
Box #100
Ellisville, Ohio   00000

Dear Mr. and Mrs. Stitston:

As your son Charles continues to do an outstanding job on his on-the-job training at Premix Corporation, I would like to state that he has been a true asset to himself and the total work-study program. As I have previously stated, Charles has been assigned regular tasks to perform daily and/or weekly. From the above statement, I would consider Charles has worked into the routine very nicely, while being considered a "regular" employee.

Some of the outstanding traits that he displays are cooperation with other employees, willingness to work, fine attitude, care of equipement and materials, reaction to criticism, and willingness to do a good job. Although Chuck is doing an outstanding job, I would like to caution him about possibly doing too much. I feel that Chuck tries to engage in possibly too much work and not enough hours of pleasure. At the present time, he seems to be doing O.K. with this "heavy" load. I think that Chuck will make an outstanding worker, provided he like the work.

It has been a great pleasure to work with Chuck. Please complete the enclosed forms and return them in the self-addressed, stamped envelope. If I may be of any assistance, please feel free to contact me.

Sincerely,

Charles C. Klamer
Work-Study Coordinator

jam
cc: Ellisville High School
Enclosures

THE IMPORTANCE OF SELF-IMAGE IN VOCATIONAL REHABILITATION OF THE MENTALLY RETARDED

John E. Lapidakis
Lehigh Valley Association for Retarded Children
Bethlehem, Pennsylvania

What we are concerned with in this paper is an attempt to present the observable behavior of a group of apparently intellectually, socially and emotionally limited individuals within a modern rehabilitation program.

We hope to offer a frame of reference to explain apparent dramatic changes in improvement of the observed social, emotional and vocational behavior of this population and how it is related to their self-image.

For the purposes of this short paper, we will not outline all of the specific details of our program. Our hope is to offer the frames of reference and basic assumptions which provide our direction.

The Kurtz Training Center, which is the rehabilitation facility of the Lehigh Valley Association for Retarded Children, serving the metropolitan area of Allentown, Bethlehem and Easton in Northeastern Pennsylvania, is such a modern rehabilitation center. With a professional staff of psychologists, vocational counselors, vocational evaluators, and social workers, the Kurtz Training Center offers a full range of programs of vocational evaluation, work adjustment training, vocational training, and sheltered employment.

One of the most significant factors in the many exciting developments taking place in the fields of habilitation of the mentally, physically and environmentally handicapped in recent years has been the metamorphosis of those facilities offering sheltered work as part of the total treatment process. From rather meager beginnings, based on a specific need as viewed by parents and friends of the handicapped, the sheltered workshop has grown and changed to meet dramatically different sets of needs. Although available as a community resource for many years, it was only as recently as the early 1950's that the sheltered workshop was seen as an important rehabilitation and training source for the mentally retarded. Before that time its primary function was to meet the demands of the physically handicapped who were unable to compete in private industry. In that context the sheltered workshop provided one major demand; the opportunity for extended sheltered employment.

That type of facility is beginning to disappear. In its place is the modern rehabilitation facility as defined in the newly enacted amendments to the VRA Act: "A rehabilitation center or other rehabilitation facility operated for the primary purpose of assisting handicapped individuals and in providing evaluation and work adjustment services to other disadvantaged individuals."

A new and important community institution has been developed in the place once occupied by the sheltered workshop. The modern rehabilitation facility, in most instances, is a professional agency with professional workers from a variety of disciplines who are knowledgeable in the use of the modality of work as a treatment and training mechanism. Not only has the workshop field attracted the professionals from psychology, social work, vocational rehabilitation, education, occupational therapy, and medicine but it has been responsible for the development of certain new specialties related specifically to the rehabilitation field. Indeed the present, major and dramatic programs of rehabilitation of the mentally retarded are based in great measure on the breakthrough lead by the sheltered workshops in dealing with this population. The new and growing relationships between the public schools and the rehabilitation facility has been spearheaded by the facility providing sheltered employment.

The modern rehabilitation facility is in essence a social/cultural laboratory in which we can observe the client in a variety of vital life experiences related to himself, his image of himself, his abilities, feelings, limitations, and his skills or lack of them. Within this milieu the client can be guided through a variety of vital life experiences related to his needs. We can offer him specific training experiences while at the same time deal with the social limitations and perceptual problems that add to his total disability. In this "laboratory" we can design and re-design work experiences which will help the client find his highest potential. Further, we can alter and readjust his environment to help him to learn to deal with limitations in personal abilities and social self-adjustment, which after all, are an integral part of his total problem. We are in a position to deal with the client in the most realistic of life situations--work! And, of course, the effective rehabilitation facility is able to use these experiences in ways which will deal directly with the client's handicapping limitations so as to alter and improve his social and vocational abilities.

For most of our clients, the Kurtz Training Center becomes his first experience in dealing with the real world of work. As mentioned earlier, the workshop is a milieu in which the realities as well as the demands of a work situation can be met. Within this setting, the client can be observed and moved toward increasingly adequate behavior. A new dimension is added to the life experiences of the retardate in a simulated work setting. By effectively manipulating the environmental conditions in the work program, the client is exposed to a variety of settings and experiences. He can begin to evaluate his abilities as they relate to work and an observable change in his perceptions of himself as a person necessarily follow.

We have been aware for some time that a large percentage of the mentally retarded clients who enter our programs begin to show a marked and often dramatic change in their behavior and in their level of social adjustment after only a relatively short time in our program. Very often we find that the client functions quite differently in the environment of the center as compared to what we might expect from the written and verbal reports from the referring community agencies. The majority of our clients are referred to us from the "trainable" classes of the Special Education Departments of our local school districts. The clients referred to our program are those individuals who have been unable to benefit from the job training or occupational training programs of our local school districts. They are people who have extremely limited social abilities as well as apparently severely limited intellectual capacities.

Upon referral, the client is preceded by a written report that usually outlines his extreme limitations and presents to us a picture of an individual both socially as well as intellectually limited. In this regard the school report seldom, if ever, contains information concerning the individual's feelings, interests, values, or drives which may have affected his school experience. Seldom are such elements as his emotional well-being considered. Typically, the information received from the special classes come to us with the implied prejudgment that the individual will be a terminal sheltered workshop employee with little or no hope of higher level of adjustment.

At intake, therefore, we see an individual whose concept of himself has been seriously affected by a tragically consistent series of life experiences reinforcing the low esteem in which he holds himself. It began with his parents' early attempts to cope with the emotional impact of his birth, and its affect on their lives. It continues through a childhood in which he is allowed only limited social interaction and in which his deflated image of himself develops slowly but surely as he sees himself as a person who is somehow less an individual than those around him; a limited person expecting little and often receiving less.

Finally he moves into the special class environment of the school system. The low esteem in which he perceives himself is further reinforced by the special class experience. Here he is placed in a special grouping most likely at a special school. Very often children with learning disabilities are grouped with other children who may exhibit serious behavioral or physical problems. Too often, his teacher is a person who is essentially untrained in the extremely specialized task of teaching the intellectually limited child. The special class teacher should be better trained and know more than any other teacher about basic learning theory, and the complex and specialized programs necessary for the intellectually limited child. Unfortunately, the opposite is too often true.

The child assigned to the special class, we feel, is not fooled. He learns fast that his class is different than that provided others who are not "school retarded" or "special class kids." He can perceive that his class is just what a person with his limitations should have. By this time his image of himself as an inferior person is becoming quite crystallized and he easily accepts his role. If he is a "good" special class student he will carry out the daily routines faithfully staying out of trouble and being good. In this way he receives some measure of personal gratification. The child's feelings of social inadequacy are the direct result of the segregated educational experience in which he was offered essentially a watered down version of the basic school environment and programs by a well-meaning but nevertheless inadequately prepared teacher.

It is important at the outset that we deal with the question of intellectual deficit as it relates to vocational rehabilitation. There are enough studies that have shown rather conclusively that intellectual deficit does not necessarily mean poor motor coordination, or diminished manual dexterity. Further, mental retardation alone does not necessarily effect social abilities, emotions or skills. It would appear, on limited evidence and experience, that basic intelligence, in many instances, is less important in the development of good work attitudes and abilities than the qualities we ascribe to personality.

There are few studies which relate intelligence to specific kinds of jobs. We don't know how much intelligence is needed for different types of work. Moreover, we can only make assumptions, based upon experience, of the effect of environment, physical surroundings and shop morale on the worker's total performance on a specific task.

What we are concerned with is the development of a variety of appropriate life situations which encourage an increasingly higher level of effective responses. It has been the lack of appropriate opportunities offered the mentally retarded person which has resulted in his limited performance. As long as we continue to judge him on the basis of his past inadequacies instead of developing new ways to develop his potentials, the mentally retarded person can make only limited progress. Our task is to present the client with an environment in which he is exposed to new opportunities in a structured setting not limited by pre-judgments regarding his potential to learn.

Ones ability to deal effectively with his environment is affected by the total sum of all of his life experiences implemented upon and in relationship to the basic intellectual deficit he has inherited. To be most effective, we must develop a definition of mental retardation which is based upon modern concepts of what vocational rehabilitation can accomplish. We must consider the psychological knowledge that different individuals vary in their ability to adjust to their disability. Classification systems which group individuals according to one isolated factor, such as intelligence, fail to take into account important individual variations. It is these individual characteristics which are meaningful in training the mentally retarded young adult and which can be evaluated most effectively within the environment of a rehabilitation workshop.

If we accept the premise that work has a central place in our society, the pre-adult mental retardate must be evaluated for his ability to assume the role of a worker at some level within this society. It is his ability or inability to adjust to a work situation, then, that is his primary social disability. Certainly this is affected and influenced by his basic intellectual dysfunction. But having a sub-normal intelligence does not preclude vocational potential. Present psychological tests and school curriculum are not necessarily related to the conception of work or the role of the worker in industry. They do not provide us with an adequate picture of the person's ability to adjust ultimately to the setting of the labor market.

The challenge, then, in habilitation programs for the mentally retarded, is to develop and explore new methods, based upon personality and learning theory, to isolate, evaluate and utilize the client's basic native capacities, within the frame of reference of his intellectual limitation.

The program of the Kurtz Training Center is based on a rather broad interpretation of vocational training and work adjustment and stresses the importance of recognizing and treating the personality factors affecting vocational behavior. Basic to our philosophy is the concept that the mentally disabled individual, within his limitations, can be an active participant in this program and can be helped toward greater self-direction, responsibility and a higher level of functioning related to vocational skills. Our objective is to offer the client a program which, at all levels, is designed to stimulate him to achieve increasingly higher levels of functioning and personal gratification. It is aimed toward helping him to accept himself as a person of worth who can be a productive, capable and useful adult rather than a helpless, incompetent and dependent individual. The basic objectives of the Kurtz Training Center can be stated as follows:

1. To provide vocational services to mentally handicapped persons which include vocational evaluation, work adjustment training, and transitional or interim sheltered employment. The optimum goal is community placement.

2. To provide paid employment for an indefinite period to individuals who are unable to meet the standards of the competitive labor market.

It is the policy of the Kurtz Training Center to serve people with a variety of disabling conditions. Basically, however, Kurtz Training Center is geared most specifically toward the client whose disabling condition is related to a mental, intellectual or psychological disability. Currently the client population consists of approximately 122 mentally retarded persons and 20 vocationally disabled people whose basic problem is related to an emotional illness. Obviously many of our clients have limiting secondary physical and mental disabilities.

Woven into all of the programs of the Kurtz Training Center are the concepts of personal adjustment training within the work environment based upon reality. Basic to these programs is the idea that our clients need experiences which are stimulating and provide gratification, a climate which is accepting but not uncritical, a structure which has limits but is nonetheless flexible, and consistent adult authority figures with whom the client can establish meaningful and growth promoting relationships. We stimulate appropriate adult behavior through an appropriate adult reward; pay. Paid work, therefore, constitutes our main training medium. It is not disguised in any way.

Throughout his experience at the center the client is provided with a variety of vocationally relevant skills and experiences intended to bolster his feelings about himself and his potential as a worker, and to develop an improved image of himself in relationship to this small part of the world of work.

At the base of all of the programs at the Kurtz Training Center is the philosophy that an individual's self-image may be the single most important factor which will determine success or failure in habilitation programs. We accept the premise that a positive self-image significantly increases an individual's chances for success. Stated simply: the more a person is offered opportunities in which he can receive personal gratification and satisfaction and success, the higher will become his perception of himself as a person in relationship to other people in his environment. His successes and his failures in dealing with life experiences have a direct bearing on the adequacy and skill he develops in dealing with his environment.

During the diagnostic and evaluation phase and continuing throughout the program at Kurtz Training Center, all of the staff who contact the client are concerned about the individual difference of that client. We do not approach the mentally retarded individual as a representative of a homogeneous group with a similar type of handicapping condition. Similarily, we take into consideration all of the factors that have gone into making this one client: his ambitions or lack of them, his perception of himself and his abilities, his specific areas of skill, and his emotional and social adjustment. We are becoming increasingly aware of the extent to which emotional problems among the pre-adult and adult mentally retarded clients affect their total performance.

During his stay at the center, the client is involved in a wide variety of experiences designed to provide him with as full an understanding as possible of his potentials. The program is designed to foster independence and to motivate and support the growth of an expanded self-concept of each client as he perceives himself within the structure of the center and to re-establish his identity and his self-image of himself as an individual. With a strengthened and improved concept of his abilities and limitations, the client is able to take an increasingly active role in his own life, dependent upon the extent of his limitations.

Just as habilitation does not begin in the rehabilitation facility, it does not end there. The client's role within the community as a citizen is influenced by his family, the church, the schools and the voluntary agencies working in concert. Each plays a vital part in his ultimate level of social adjustment. We suggest that new approaches are needed in which all of these important influences on the client's life explore innovative means which will result in improved education and training of the mentally handicapped child. We must raise our own expectations of his potential as a citizen if we are to benefit by our experiences.

Rehabilitation workshops have developed their own unique contributions to the diagnostic and vocational evaluation process, and they are in a position to supplement the diagnostic services of the public schools, thereby expediting the movement of the retardate from school into the community. Similarly, the schools must continue to explore improved methods of education for this special population based upon conceptual learning theory, and not limited by past misconceptions concerning the inability of the retarded to learn modified academic curriculum.

The role of the family in the total educational process cannot be minimized.

We must be able to look deeply at the very base of our program structures if we are to develop truly meaningful programs for the citizen who is mentally handicapped.

WARREN MARKET'S THE EDUCABLE MENTALLY RETARDED

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In September of 1960, Warren, Ohio opened the doors of a then about to be abandoned elementary building to 186 seventh, eighth, and ninth grade students. This in itself was not unusual in that era of the population explosion, but most everything else about the school was. It was started as an experimental junior high school expected to provide terminal education for 50 to 80 I.Q. level students, but three years later had grown into a full six year secondary school. Now as we approach the close of the 1960-70 school year, a number of interesting facts have been established and confirmed. Some of these facts, plus what we feel to be the reasons for them make up this report.

When a student has completed his program of studies at Market High School, the odds are that in addition to a regular high school diploma, he will have a full time job and an already well established savings account in one of the local banks. The diploma will have been granted upon his completion of the prescribed 17 Carneigie units of credit required by the state of Ohio and Warren City Board of Education. The full time job will have been earned as a result of a training program that enables students to go to school 3 hours daily and work up to 8 additional hours per day under the guidance and supervision of the school. The savings account is the result of this work and a carefully planned budget established cooperatively by the student and his OWE coordinator.

All of this is commendable, but so far, nothing is too unusual or innovative, as Occupational Work Experience programs are not at all uncommon in Ohio today. Even the fact that Market High established the first one in Ohio could not continue to gain recognition for long. What does create interest in the program is it's evidence of continued success after ten years of existence and the fact that the entire program is run for and by students who are all below 80 I.Q.

Students are assigned to the program at the end of grade six on the basis of four criteria:

1) An I.Q. rating of 50 to 80 as established by an individual pychological examination given by a trained psychologist using a Binet or Wischler Intelligence Scale for children.

2) Evidence of at least two years retardation in scholastic achievement as measured by various achievement tests.

3) Further evidence of academic retardation as measured by school marks and the classroom teacher's expressed ratings of the student's level of work.

4) Recommendation by the sixth grade teacher and concurrence of the elementary school principal.

Upon entering grade seven, the new student is placed in an academic classroom that averages less than 17 students per teacher. The program is a very flexibile one based largely on the core concept. The teacher is given the difficult job of taking each student from whatever level he is on and advancing him as far as possible academically. The work is individualized as much as is possible. There are no prescribed textbooks for classes. Each teacher uses whatever book best suits the student. Therefore, you may visit a 7th or 8th grade arithmetic class and find ten different books in use at the same time. In addition to arithmetic, the student studies general science, social studies and language arts. The later term is used rather than English because reading is included. Instruction is kept on a concrete rather than abstract basis and is made as much as possible practical, useable and meaningful to each student.

Students in grades seven and eight have two hours each day in home economics or industrial arts. Foods class is taken one semester by the girls and clothing the other. Each of these classes incorporate much more than the title indicates. Infant and child care and feeding as well as some home nursing, family budgeting, and wise and proper spending are all included. Boys get one semester each year in wood shop and one in craft shop. Physical education, vocal music and art classes round out the curriculum for these students.

The pattern changes in the next two grades. An attempt is made to find an interest area for the students and then develop a need to learn in order to further that interest. As an example, boys may select a class in vocational horticulture. They go daily to a 76.4 acre outdoor land laboratory obtained from the federal government as surplus property, instead of to a regular classroom. They maintain a full program of work and study there. When actual horticulture work is completed in the greenhouses or, in good weather, in the gardens, they move into a classroom attached to the greenhouses and work on lessons they need to know to do the work. Each year these students prepare and supervise a summer gardening program for over 800 elementary students from the Warren City Schools. They decide the amount of seeds needed for the gardens and place the orders. They then package the seeds in individual packets for the elementary students to use. The number of arithmetic problems or science lessons that are developed from this area is almost endless. (Refer to NASSP Bulletin of March, 1970 for further report of the land laboratory.)

Another course is called production-construction class. This class spends four hours daily in a wood shop. Simple assembly line projects are developed and students learn the rudiments of the attitude necessary to work in an assembly line. Work done by these students is later sold and any profit made is divided among the students according to their time and wages reports which they work out together. Individual projects are also encouraged but before he begins, each student must buy shop cards to pay for the material to be used. These cards are sold at $1.00 each. The point is, the student must figure how much material he will use and what it will cost before he begins. Arithmetic and science are part of the learning required in this class. While not specifically listed, much learning in the social studies area also comes from this class. What more practical lesson could they learn than how to get along with their fellowman and how to listen to and follow instructions from their shop foreman? Incidentally, we feel the most important subject we teach at Market High is attitude. Following this concept, we pay little attention to such things as Brotherhood Week per se because we feel it should not be practiced a week each year but every day every year. The Black-White proportions of our student body have varied from year to year. We have had as high as 60% White and presently have nearly 65% Black students. The numbers of male and female students have also varied. This proportion has gone from 52% female to 55% male.

Market High School has never had a protest, walk-out, gang fight, or race problem. During its 10 years of existence, we have never had to replace or refinish a desk top or a wall because of damage or destruction of any kind. The inside of the building has not been painted in eight years, but writing or marking of the walls is conspicuous by its absence. The students understand it is their school and they can make of it what they wish.

Members of an art class requested and received permission to paint the walls of the art room to cover places where paint had peeled off the wall. They didn't simply paint the walls, they designed and painted a complete circus motif. The big top, clowns, bears, tigers, lions, giraffes and various other circus regulars have created a pleasant, bright atmosphere in a previously dingy basement room. More important, it is now their art room, not mine or yours.

Members of the production-construction class actually constructed a building and set up an evaporator in it at the land laboratory. The vocational horticulture class tapped the maple trees and boiled the sap until they made maple syrup. Part of this was given to girls in the Foods class who in turn created maple sugar candy of it.

The Jay Cees of Warren sponsored a student government day recently. Students in the social studies classes who were working on a unit of local government decided to get our school involved. They organized and staged a demonstration at the mock convention that was complete with drum and bugles (from our school drum and bugle corps), a campaign song written to the tune of "A-men" but extolling the virtues of our candidate, Jay Redd, caucauses and all the other activities of a real convention. Running in competition with four comprehensive high schools from the area, each with over 1,500 students, our candidate lost in a run off election by only two votes. We succeeded in electing or having appointed to office a city councilman, county commissioner, probate court judge, superintendent of parks and city solicitor. Most important of all, was the knowledge and interest gained by the students, and the respect earned by them from the citizens of the community.

Members of the student body are encouraged to participate in a variety of activities. The basketball and track teams compete with other regular high schools of a similar size. The teams have been as good and as bad as in most other schools. They had seasons varying from 14 wins 2 losses to 3 wins and 13 losses in basketball. The track team placed third in Ohio class "A" teams in 1965 and has been low enough other years to not register in the rankings.

A school yearbook, student council, visual aides club, office assistants, student librarians, choir, drum and bugle corps, cheerleaders and baton twirlers are other activities. Several students have formed an instrumental rock group and there are two vocal groups among the student body of about 310.

The FFA chapter (made up of vocational horticulture students) plans and pays for a yearly banquet. They hire caterers to serve the banquet but make all other arrangements themselves. They select their own members as toastmaster, speaker, greeter, and chaplain and invite their parents, teachers and administrators as their guests.

Clothing class students present a style show to the Parent-Teacher Organization each year. The students model clothes they made in class. Girls in foods class cook a complete turkey dinner at Thanksgiving time and invite boys from the industrial arts class to help enjoy it.

Each year, a few days before graduation day, an Awards Assembly is held to recognize the many things done by the students at Market High School. The culmination of the assembly is the awarding of several scholarships. These are not for college entrance, but for other things. As an example, one student used hers to help pay for a course in beauty operators school. She is now licensed by the State of Ohio. Two large trophies are awarded by the school. One is for Outstanding Citizenship and the other is for most Improved Citizenship. Each is accompanied by a check for $100.00 furnished by the local Optimists Club. It is felt that since the teaching of good citizenship is a major objective of our school, we should reinforce that teaching by rewarding students who are the best examples of what we have taught.

When a student is in tenth grade, he undergoes from three to five work exposure days. These days are set up to show him what is expected of a worker on a similar job. The student is paid $6.00 for each work exposure day and is placed on a different job each of the days. These exposures are prefaced by several days of briefings by the OWE coordinators and many days of discussions and exercises in the classrooms. Language arts classes discuss and write about what the students feel they should do, look for, avoid, or ask about on the job. Social studies classes discuss types of occupations, requirements of them and attitudes toward fellow employees or employers as well as handling of pay checks. This serves as a great place to start discussions of taxation, social security, workmen's compensation etc.

Following the one day of work, is a de-briefing and numerous discussions in the classes. Each student is evaluated by his employer after the work exposure day. Many times this leads to eventual placement of the student with one of the employers when the student enters the OWE program at 11th grade. On several occasions, it has resulted in the student being hired for part time after school work while still in tenth grade.

The OWE coordinators visit the classes and have many conferences with teachers of the tenth grade students. These are informal evaluations of the students. They are sometimes called upon to talk to the classes regarding attendance, punctuality or work or study habits that would affect jobs if continued.

By the time the student is ready for grade eleven, and therefore eligible for the OWE program, he has a reasonably good idea of what will be expected of him, and the OWE coordinator has an equally good idea of what he can do. The coordinators talk to the students individually and also visit the parents of each prospective member of their class. They discuss the many details of the program and if each is satisfied, the student, his parents, and the coordinator sign a contract. This is a form stating the basics of the program. It includes an agreement concerning the regulation of the students' money earned at the job training station.

In addition to this, the coordinators visit prospective employers and signed an agreement with them. This agreement sets up procedures for working with the student-employee, salary, working hours and methods of handling possible problems. The employer is selected even more carefully than the student employee. He must be a person who is capable and interested in helping teach the student beside simply having the student work for him. The coordinator also schedules regular on the job consultations with the student and the employer. These consultations include evaluations of the student by the employer, by the coordinator, and by himself. The student in turn evaluates the job and his employer.

Each student is scheduled for a daily three hour class at the school. This class will include United States History for eleventh graders and Language Arts for seniors. These are the remaining required subjects needed to fulfill the obligations to the State concerning graduation. The other two hours of class daily are labeled related subjects. This is a loose term used to cover any work or discussion deemed necessary for better knowledge or understanding of the world of work or any related area. During this class, the students work on their daily record keeping. Each one is required to keep a schedule of his daily working hours, money earned, and any comments concerning the job he may wish to enter in his notebook. Proposed budgets and actual spending and savings records are included. The discussions in this class are usually interesting and astounding to visitors. It is always a spirited discussion that takes place when someone in the class mentions welfare, ADC or similar government programs. Many of the students can see two sides to the problem; that of a taxpayer, and of a former welfare recipient. Twenty-nine percent of the student body at Market High are in the disadvantaged category. One problem encountered early in the development of the school was the fact that earnings of the OWE student caused an equal reduction of his family's welfare money. It didn't take long for some to ask why they should work when they were just as far ahead by not working and accepting the welfare check. With some special consideration and appreciation for what we are trying to teach, an agreement was reached whereby the amount earned in the OWE program does not affect the amount of welfare received by the student's family.

Another agreement, this time with the Warren City Council and various unions, permits some students to be employed by several departments of the city government. We have placed students with departments of streets, water, parks and sanitation. The school system also serves as an employer by hiring students to work as janitors and as food service employees. Other employers are scattered throughout the area. Since Warren is a diversified industrial community of 65,000 people, there are a wade variety of jobs available.

It is understood by all concerned that the student will not be expected to remain at the same position permanently. They are moved as the need arises. This may be done at the request of the student, the coordinator or the employer for many reasons. Likewise, salaries are arranged by agreement and increases are given when the employer feels they are warrented.

One of the major benefits of the agreements between the school and the employer is that he agrees not to simply fire the student if a problem arises on the job. The coordinator is called and attempts to find a solution to the problem. This way, the student is not just resentful towards an employer because he lost a job as it would normally be, but has an opportunity to correct the mistake and learn how to avoid similar problems in the future. It also helps the employee understand the reasons for the problem and often gives him a new out-look toward his boss. Once again that brings out the most important thing taught in the program.....attitude.

By the time he is ready to go out on his own, and has completed the requirements for graduation, the average student at Market High School has over $1,000 in the bank, a full time job, and a regular high school diploma. He is usually 19 years old, though some have remained until nearly 21 and many are already married or seriously thinking about it. This program has helped show the advisability of economic stability and in several cases when forced marriage was imminent helped the young couple adjust to the circumstances.

The graduating class of June, 1969 was composed of 27 young adults. Twenty-five of them were employed when they left school. Of the present juniors and seniors in the school, forty-two are working for thirty-two different employers. The jobs range from assistant to the custodian in the schools to cashier in a super market; from short order cook in a restaurant to route man for an automatic vending machine company.

A follow-up study of the 150 graduates of Market High showed 94.6% of them were self supporting citizens of our community. It also showed 36 are or recently had been in the Armed Forces of our country. These included a cook on a nuclear submarine, 3 paratroopers and 5 Marines. One has earned 3 purple Heart medals and two awards for valor in Viet Nam.

The program is not a cure-all for the problems of the educable mentally retarded. We do not meet with instant and complete success, but we do feel it is a good start. The drop out rate of the Warren City Schools grades 9 thru 12 inclusive has remained below 4% since this program was initiated. It is usually about 3.2% and has been as low as 2.8% these past ten years.

While the OWE program at 11th and 12th grade levels gives what we attempt to teach a chance to prove itself to the students, and is usually accepted by the staff of the school as the icing on the cake, it is the four years of ground work that preceeds it that makes it all possible.

A typical comment was made to me recently by Mr. Paul Martin, president of Martin Chevrolet in Warren. He said he had taken on two of our students with great misgivings. He said he was sure the program could never work because of the nature of the students. Now his biggest concern is how he can keep both young men working for him as they have proven themselves to be two of his most reliable employees and he is afraid they may take jobs elsewhere in the future.

The graduating class of 1969 showed how the students feel when they surprised the faculty with a plaque that had each of their names engraved on it at graduation time. They included the following inscription, "To the faculty at Market High School. We'll never forget all the wonderful things you have done for us".

A RELOOK AT WORK APTITUDES FOR THE RETARDED

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When one reviews the ruberic of vocational education for the retarded, it is evident that many good things have taken place. It is important to note that research and demonstration has affected curriculum change over the past years.

Research, data reporting, and program descriptions have suggested many important specifics that are paramount to the vocational field. A summary of these are to be found in one of the papers received at this meeting. Broadly speaking, these may be separated into four implication areas.

(1) Society--Emphasis is placed with the work structure found in our environment. Job opportunity, types of available work, "economics," technology, and the occupational structure are but a few of the concerns here.

(2) Social--The concern here centers about the social-emotional and interpersonal factors related to work. Emotional variables, appearance, communication skills, family, peer-group relationships, and social skills are some of the uniform specifics that are crucial as they relate to the retarded in vocations.

(3) Physical--Motor activities are the primary interests as they are involved in work. Commonly stated concerns are work experiences, proficiency, work-samples, shop, home economics, and physical education among others.

(4) Programs--The emphasis in this area has been those problems of specific school or agency programs. Discussion here talks about community job surveys, administration of work programs, articulation, acceptance, co-ordination activities, and curricula characteristics.

It seems that many have come to believe that the variables so far mentioned somehow live in isolation. We know better; they do not. They are all interrelated into individual whole persons somehow trying to use himself in some area of the work world. If one part of this "whole" is deficit, successful job holdings, for any length of time, are difficult. It seems we could very well ask ourselves what is missing. What isn't being done? Where are the retarded not doing so well? This brings me to an area that I have purposely left to last--that of the Physical.

I am suggesting that in spite of work-experience, on-the-job training, cooperative programs, vocational vocabulary, job interview role playing, ways and means of dealing with application forms, we are still not, in general, developing a total kind of worker. These items are suggested as work aptitudes. They are in a sense, but are not basic, and it is here that one "re-look" is in order.

I am perfectly aware that at one time vocational education in this area, that is motor-development, predominated--put in isolation to everything else. Today it seems that Society, Social, and Program variables are in domination and isolation to Physical factors.

When I speak of basic work aptitudes, I am talking of physical and perceptual-motor performance. Motor-speed, muscle coordination, dexterity of the extremities, strength, agility, form and symbol perception, endurance, and many related abilities have derived relationships to work.

In spite of physical education, metal shop, wood shop, arts and crafts, and home economics, we are still obtaining graduates of our programs who are generally deficit in these vital areas. This was true forty years ago; it was true twenty years ago, and it is true today.

This session received a copy of "A Study of Work Aptitudes In an EMR Sample". This is certainly not an all inclusive study, but it suggests that some basic work aptitudes can be taught and retained. Motor retention is an extremely important phase and is substantitated by research. It would seem that "basics" might be overlooked for the more glamorous parts of our programs. It could be easily suggested that a re-look at our total vocational program to include basic motor-vocational aptitudes, especially at elementary levels, could be in order.

In closing, I would like to leave you with a statement by Arthur L. Benton, in which he said, "A Genius can afford to be a 'motor imbicile' but a person with an IQ of 75 cannot. The latter's psycho-motor ability may well determine whether he will attain a reasonable social competence." There is no reason, in my mind, why this area is neglected or overlooked. It is just as important today as it was yesterday in our vocational programs for the retarded.

AREAS OF VOCATIONAL EDUCATION RELATING TO THE RETARDED

The review of literature reveals enough agreement that, in the area of occupational education, programs could be made in proper focus. In an imcomplete review, "needs," indicators, findings, and concepts are summarized in the following outline as it related to the retarded:

General Reviews

1. Work is mainly in unskilled and semi-skilled areas.
2. Need for family support.
3. Personal appearance is a factor.
4. Occupation structure is changing.
5. Importance of personal and social skills.
6. General "work skills" are needed.
7. Important to survey the community.

Motor Implications

1. Training is possible for more subjects.
2. Large amount of variance in "skills."
3. Perception is somehow involved with many EMR.
4. WISC performance as a general predictor.
5. Generally, the EMR are "slow" in motor proficiency areas.
6. There has been a more than average success with the work-sample approach.
7. Motor proficiency is important in unskilled work.
8. Other variables are important with motor proficiency-social, etc.

Social Implications

1. Personal appearnce is important.
2. Social skills - interaction is important.
3. Great need for student and parent counseling.
4. Emotional variables are directly related to work success.
5. Need to know community social structure.

Programs

1. General acceptance of BWE as part of school curriculum innovation.
2. Teacher's need to know more about work skills.
3. Job surveys need to be made in each community.
4. Need for someone to act as liason between school-community-student-home.

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A STUDY OF WORK APTITUDES IN AN EMR SAMPLE

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For those who work with the educable retarded in school settings, concern is made of what practices might increase "work" potential. Many reports have been made about informational discussions of the vocational complex. Emphircial and experimental data has led to the incorporation of material in the school curricula about the vocational world. Information regarding job opportunities, personnel selection, attributes needed in work, interviewing, and work experiences are common characteristics of high school programs for the retarded. It appears, however, that many adjustment problems still occur beyond what could be considered usual. Work maladjustment is often evident to those who work with the retarded in employment and vocational situations.

A concern with regard to vocational potential are work abilities that revolve around several physical and perceptual tasks required in most jobs that educable retarded might find themselves, e.g. unskilled, service, and some some-skilled working situations The nature of ability tasks, required in job functions, and what practices may lead to improvement are crucial questions in the habilitation of the retarded.

The present study attempted to explore selected work abilities and their relationship to job task oriented exercises in school classroom situations. Specificially, the study was concerned with the following objectives:

1--To see if five tasks, related to work aptitudes, given in grades nine and ten help students attain work skills.

2--If they do, what can be said about them that would help retarded students attain better vocational potential?

Procedure--

Seventeen high school classes for the educable retarded were used intact, except that students with medically diagnosed physical defects, a two year, or older, psychological evaluation or review, or were administeratively not feasible (excessive absence) were not included. This produced a total sample of 206 subjects that included 114 males and 92 females. Each of the eleven classes were randomly assigned to one control group (A) and two experimental groups (B,C). This produced numbers f for Group A of 67, 32 male and 35 female, Group B of 66, 44 male and 22 female, and Group C of 73, 38 male and 35 female. Normal statistical tests of CA, WISC IQ, including FS, PS, and VS, and homogeneity desclosed that each group was similiat as shown in Table I.

Table I--Identification Data on 206 EMR Ninth and Tenth Grade High School Students

	Totals (WISC)					Male				
Group	N	CA	FS	VS	PS	N	CA	FS	VS	PS
A	67	187.6	68.7	70.5	72.7	32	186.5	68.6	71.9	70.9
B	66	189.7	69.5	70.7	73.6	44	191.6	70.3	71.2	75.1
C	73	189.2	70.0	70.6	73.0	38	189.2	69.8	70.9	74.5
Totals	206	188.2	69.7	70.6	73.1	114	189.3	69.7	71.3	73.7

	Female				
	N	CA	FS	VS	PS
A	35	188.6	68.8	69.2	74.3
B	22	186.0	67.9	69.9	70.7
C	35	185.2	68.1	70.2	70.5
Totals	92	186.7	68.3	69.8	72.4

Each experimental group was given five tasks to do weekly; one each day. Group B worked on the tasks for six weeks and then were controlled for six weeks (did not do the tasks), and Group C carried the tasks for twelve weeks. Task one consisted of sorting file cards in which the subject placed each in appropriate stacks. Task two had the students sort colored pieces of tubing into the correct containers. Task three asked the students to assemble nuts and bolts of seven signs. Task four consisted of marching twenty paired objects (clips, screws, washers, etc.) and task five was a coding exercise in which the subject copied every third or fourth figure into a worksheet. In each case, the subjects were introduced to keep a record of their time and see if they could obtain a better one in succeeding trials. The average time per task was 342 minutes daily. The tasks were presented as part of the classroom work and completed as an "ongoing" activity during the experimental time.

Test, retest and post-test criterion measures were made of sub-test raw scores of the General Aptitude Test Battery. Sub-tests P (form perception), Q (Clerical perception), K (Motor coordination and speed), M (Manual dexterity), and F (Finger dexterity) were utilized.

A co-variance statistical procedure was made on raw score among groups from 0 to 6 weeks and 0 to 12 weeks. Standard t-tests were made between groups at 6 weeks and 12 weeks and an analysis was made on the resulting data.

Results--

After the assumptions underlying co-variance analysis were satisfied, the obtained raw scores were made.

Table II--Raw Score Data on Selected GATB Sub-tests.

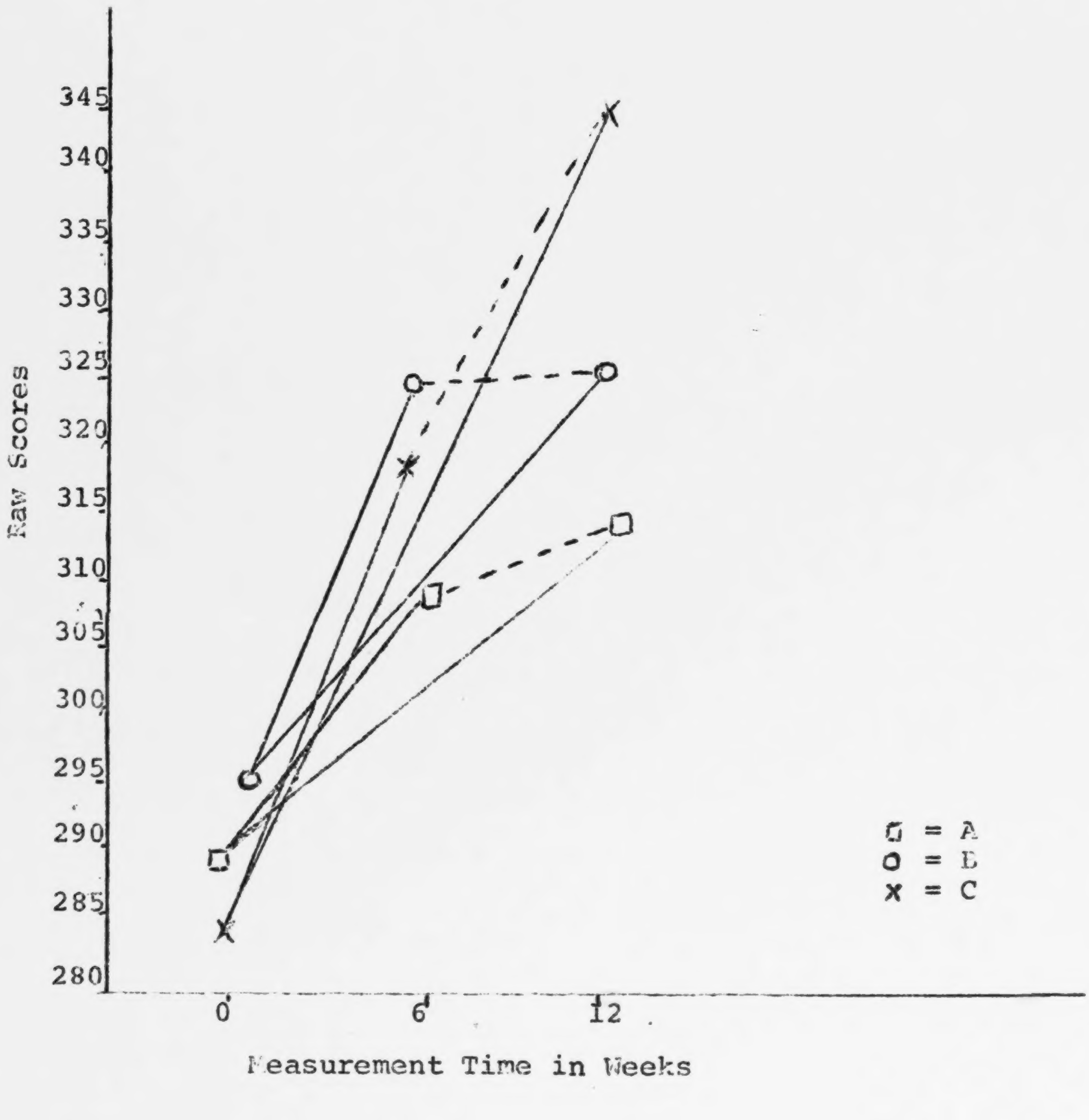
Total Raw Scores		0-6		0-12	
Group	Mx	My.x	t-ratios	My.x	t-ratios
A	291.25	311.41	A.C.=13.61**	315.04	A.C.=29.49**
B	298.98	326.47	A.B.=15.06**	328.71	A.B.=13.67**
C	285.60	325.02	B.C.= 1.45	344.53	B.C.=15.82**
K-Motor Coordination					
A	52.00	54.84	A.C.= 3.29**	55.32	A.C.= 4.76**
B	54.77	57.21	A.B.= 2.37*	59.62	A.B.= 4.63*
C	51.77	58.13	B.C.= .92	59.66	B.C.= .04
Q-Clerical Perception					
A	24.70	26.33	A.C.= .75	24.97	A.C.= 6.20**
B	23.21	29.14	A.B.= 2.81*	27.97	A.B.= 3.00*
C	22.60	27.08	B.C.= 2.06	31.17	B.C.= 3.20*
P-Form Perception					
A	35.21	37.73	A.C.= 3.12**	38.13	A.C.= 6.95**
B	34.88	43.68	A.B.= 5.95**	41.60	A.B.= 3.47**
C	34.32	40.85	B.C.= 2.83*	45.08	B.C.= 3.49**
F-Finger Dexterity					
A	36.99	39.88	A.C.= 2.07**	40.79	A.C.= 4.13**
B	37.09	43.45	A.B.= 3.57**	43.80	A.B.= 3.01*
C	35.55	41.95	B.C.= 1.50	44.92	B.C.= 1.12
M-Manual Dexterity					
A	142.34	no	no	156.20	A.C.= 8.85**
B	149.03	sign.	sign.	158.80	A.B.= 2.60
C	141.37	F-ratio	t-ratio	165.05	B.C.= 6.25**

*.05 level of significance
**=.01 level of significance

Table II indicates a general pattern of Group A remaining rather stable from one level to another. Group B (6 weeks treatment, followed by 6 weeks non-treatment) shows gain scores from 0 to 6 weeks and a generally flattening of scores thereafter. Group C scores indicate a general gain in scores at all levels. In essence, Group B gained and maintained scores greater than Group A, and Group C gained scores greater than Group A or B. This can shown in graphic form:

Figure One

Comparison of Group A-B-C Adjusted Means on Total GATB Measurements



Little difference is noted in the pattern between male and female subjects in this sample. The single exception appears to be the males of Group B for the K subtest. In this case, they contained too slow a gain in serves after treatment ceased. This factor may help account for the lack of statistical difference between B, C in Table II, Q-clerical perception.

Discussion--

One obvious consideration is that this sample scored well below tenth grade norms as interpolated from GATB manuals and based from tenth grade samples. This sample obtained only the 1% on the M and F subtests, 10%, 11%, and 24% percentale on K, P, and Q respectfully, with 5% on totals. This finding is consistent with GATB data reported of retarded adults, particularly Tizard (1950) and Cantor and Stacey (1951).

Using a raw score interpolated mean of the five subtests of 375.32, only five of the initial scores exceeded this mark. However, as the experiment ran its course, twenty-eight (A=6, B=10, C=12) did at six weeks, and thirty-nine (A=7, B=10, C=22) did at twelve weeks. The results of the initial scores suggest a deficit in work aptitudes, as measured by the GATB, and gain in scores of Groups B and C indicate activities might combat this deficiency.

The tasks used in this experiment seem to be related to criteria measures several different ways. The experimental groups clearly received higher scores than controls after treatment periods, however, the experimentals did not differentiate on all subtests. This is particularlyevident on Motor coordination(K) and Finger dexterity (F) subtest with regard to differences between Groups B and C (See Table II). There was a speed factor in both of these. Our results might suggest that once a "speed" level is obtained, this ability tends to remain. It might be further postulated that this sample of EMR had not received practice in the speed dimension prior to the experiment.

None of the experimental tasks had written or paired symbols except task five. This consisted of copying a letter from one area to another. This was seen previously as a manual exercise. Yet, the Q subtest criteria measure, which the subject indicated whether paired names (J. C. Smith--J. C. Smithe, or John Elmont--JOHN ELMONT) were like or different, showed significant gains for experimential groups. Teachers indicated task #5, however, was the most confusing and least practiced of the exercises. We tentatively believe the results suggest the "attention getting" and detail aspects of the other tasks was a concomitant value of the experiment. This supposition would agree with the work of Lipman(1964) and Zeaman and House (1963).

Sex differences were slight. Females did somewhat better on the K (Motor Coordination) and the Q (Clerical Perception) subtest, while males did better on P (Form Perception), F (Finger Dexterity), and M (Motor Coordination). The differences, however, were slight and no statistical significance was found. The treatment exercises (tasks) were fitted into the on-going activities of the respective classes. Tasks #2, #3, #4 had the widest appeal as reported by teachers. It was reported that the colors and materials used added to this appeal. Also, it was indicated that the time aspect, where each subject in the experimental group would try to beat his previous time in doing each task, had the effect of holding interest. "Time beating" was individual, however, and not a group competition. The subjects tended to work in pairs and many teachers indicated the subjects tried out "systems" used by others. After about three weeks, the subjects usually had their own system. Little "carry over," such as observing differences or noticing placement of objects in order, was particularly noted by teachers. In general, comments were favorable toward the use of the exercises by teachers. Most felt a value could be gained from such activities and the exercises made the subjects aware of an area in which they had paid little attention.

With regard to work aptitudes, most data in this study related to this area.

Throughout some of the GATB measurements, notably the K subtest, a speed factor was evident. This factor could be one determination as to why one subject might be considered "workshop" employable where another would be considered employable in the general community. The exercises were purposely conceived to include a speed response in that each subject worked against time. It was felt that one of the concomitant values of the exercises was a tendency to increase the functioning of speed, which was evidenced, in part, through the criterion GATB results.

Perceptual discrimination was evidenced to the exercises by forcing the subject to separate materials closely resembling one another. For instance, objects in Exercise Four included three sets of nails, screws, and washers that required close inspection before differences could be readily seen. Exercise Three had similar characteristics in that only the threads of the bolts differed. The use of color schemes, Exercise One nd Two, caused the subject to seek differences, but, in these cases was not considered a fine discrimination. While the Q subtest (clerical perception) degree of increase was somewhat of a surprise, the discrimatory nature of the exercises suggests this factor to be a meaningful one.

Manipulating materials was a segment of the exercises. Exercises One, Two, Three, and Four required the subject to handle, sort, pick up, and place large and small objects. These exercises did not require as much gross handling, like volume movements from one place to another, as it did fine, or more precise movements. This type of manipulation was seen to be an important characteristic of the exercises as particularly evidenced by the GATB F subtest.

Finally, attention to the exercise task was an important consideration. The exercises demanded close visual attention while the subject actually prepared for, and did, the exercises. The relatiohship of attention to performance seems evident.

In short, the work aptitudes initially described for this sample were lower before the introduction of the treatment exercises. To the extent the described exercises caused an increase in aptitude functioning, the factors inherent in the treatments such as speed, discrimination, and manipulation, should be considered as favorable characteristics of the exercises.

In summarizing this discussion, an attempt is made to limit the many factors inherent in this investigation to those related to the stated objectives. Several important chacteristics appear justified as features of this investigation:

1. The population studied was deficient in defined work aptitudes.

2. Evaluative measures are needed in the general diagnosis of the EMR, and the GATB appears to realistically estimate some parameters of work potential.

3. There was a relationship between "treatments" and motor aptitudes, and such aptitudes may not need a time reinforcement.

4. There was a relationship between "treatments" and perceptual aptitudes, and such aptitudes appear to need a time reinforcement.

5. No measure was found to establish a relationship between spatial aptitude and "treatments."

6. There were no pertinent sex differences.

7. Treatments were found to be an acceptable and motivating activity.

8. Treatments may be improved by expanding the activity and developing like exercises.

9. Practice and attention are crucial constructs of work aptitude development.

The results and discussions, of the many features brought out in this study, suggest a course of action that may center upon the general aspects of "vocational education." It seems that curricula workers might heed its implications.

Recommendations--

While some features are obvious, implementations in any program, may be quite complicated. Organizational structure and history have much to do with operations as a "style of life" for many educational agencies. Innovations, therefore, may take time and training to change of add to some of the concepts many hold. This experimental study suggests several implications that may make change an obligation.

Evaluations.--Upon placement to an EMR class, many will have had a psychological evaluation (usually a WISC), a medical examination, a social summary, and a school achievement summary. The information gathered from those data are necessary for certification, however, they may also give characteristics of the potential work function.

If the examinee is suspected of falling into the EMR range, prognostic information that relate to work habits and general attributes, could be important to the teacher. In the WISC evaluation, for instance, such subtests as Block Design, Object Assembly, Coding, Picture Arrangement, and Mazes might be further viewed in light of "how" the subject handles the equipment. Aside from "score," does he fumble objects, perceive likenesses, or otherwise handle materials coordinately? This kind of clue may lead the teacher to a perspective that would enable her to build lesson plans around this deficit, if necessary, or at least to focus some work in this direction.

It would seem in light of data gathered, a vocational evaluation for the EMR is essential. This evaluation should include performance areas as well as traditional ones.

While this experimental study only evaluated a few work aptitudes, many others are related to the work function and should be considered. It would seem that such progress in characteristics of strength, force, agility, grip, general reflex movements, and spatial ability would lend themselves to curricula work.

Performance Activities in the Classroom (do like Evaluations)

Data from this experimental study suggest a continuous program of perceptual-motor activities designed to remediate a general deficit. This concept would not necessarily be readily acceptable by teachers or curriculum planners.

The pressure of academic achievement is made by society, and is evident in many EMR classes. Whether a program including performance activities would be acceptable to "special" programs is largely conjecture. In this study, such activities were accepted, but it was presented to teachers as an experiment and not necessarily a part of a continuous curriculum. Initial acceptance, in this case, was not always available. After the tasks were started, however, enthusiasm became evident and the subjects related well to the tasks.

Teacher training does not place much emphasis on motor skills as a necessary development for the EMR. "Vocatiohnal education," while emphasized, is usually thought of as an academic construct, e. g., application blanks, studying occupations, self-concept, and reviewing job areas.

While academic constructs are important, the necessary mobility and perceptual processes involved in "doing" a job may be crucial. Utilizing multiple-trial performance activities seems obvious. Novel situations demanding unique motor performance in single-trial learning seesions may affect the EMR more than normals. In general, it seems safe to assume that principles that govern most other types of learning are applicable to motor educatility.

School Curriculum and Motor Development

It is likely that the EMR are not stimulated to practice motor skills as much as, or as appropriately as, normals. This does not mean, however, that many EMR are not given sufficient opportunities to demonstaate proficiencies. When deficits are displayed, the attention they receive is often inappropraate for the motor-matutation of the EMR child.

Physical education has the opportunity to develop gross motor skills. Elementary schools are not particularly consistent with their physical education programs. A continuous program of secondary physical education would seem obligatory to many of the EMR. This is possible in most schools and could be arranged provided the need is known.

Arts and crafts and the various shops should continue to be emphasized. Learning motor activities, such as manipulating eating utensils, rhythmics, and building, can be of immense practical help to parents, teachers, and EMR individuals. The need, seemingly, is apparent throughout the school years. The purposes of these classes, however, need to be envisioned as something more then "self-expression."

The role of the occupational therapist is generallly well accepted with the physically handicapped. Data from this study suggests many of the therapist's concepts could be related to the EMR. The more subtle characteristics of motor proficiency seem evident.

One way to determine the motor function needs of the EMR is to discover the aptitudes needed in work areas, such as restaurant, industry, textile, maintenance, etc. Work-motor aptitudes needed might be envisioned as:

1. Dexterity (gross to time)--an example in restaurant work is stacking dishes, cleaning tables, placing into containers.
2. Coordination--an example of this can be seen in car washing where cleaning is done with both hands, use of different materials in step operations such as hose, sponge, towel, etc.
3. Thinking Situations--an example is classifying and sorting in a laundry, analyzing, sorting and comparing placement of objects and materials in industry and textile operations.

Starting with simple objects, the EMR may be able to gain a better functioning in work aptitude areas. A series of phases might take on the following order:

Phase I

a. Sorting Activities--(colored cards, objects to size, numbers on cards, alphabetizing, bolt sorting, etc.).

b. Assembling--(nuts, bolts, and washers of different sizes, putting objects into general or specific containers, pegboard, etc.).

c. Matching--(similar objects together, or separating objects).

d. Speed--(timed operations as above).

e. Coordination--(extracting objects from others, hand balancing objects, etc.).

f. Coordinated Activities
    - handling dishes
    - stacking dishes
    - sorting dishes
    - sorting silverware
    - wiping tables
    - handling dish truck
    - agility in movement
    - balancing trays
    - arranging stock
    - filling receptacles
    - sweeping
    - dusting
    - mopping
    - arranging food on plate
    - peeling vegetables
    - peeling fruits

Phase II

Typing I
Making a bed
Design I
Telling time
Drilling
Micrometer
Bolt sorting--BS I
Nut & bolt sorting
  BS II
Nut sorting--BS III
Nut sorting--BS IV
Nut sorting--BS V
Upholstering of
  footstool
1 Spray gun cleaning
Cross measuring
Replace faucet cut-
  off washer
Sanding
Machine assembly-
  disassembly
Elementary electrical
  circuiting
Change making exercises
Petty cash transactions

Collating
Adding machine I--hand
  adding machine
Adding machine II--10
  key adding machine
Stapling
Posting Exercise--Phone
  Book Test
Mail Sorting
Window washing
Textile Sorting
Ironing I
Ironing II
Ironing III
Pattern Cutting I
Sewing I
Cash register operations
Packaging
Paper cutting
Soldering

Phase III

Outgrowth of Phase II
Longer projects where possibility of working
  with one or more, others.
Machine assembly
Stacking projects
Sorting and combining materials
Job replications

Opportunity to observe interaction

perseverance
quantity
quality
response to supervision
co-worker relationship

rate of progress
dexterity
attention
judgment
behavior
motivation

This type of activity is limited only by the imagination of the people involved. Making part of the classroom into a "work laboratory" can be helpful where students can see and use the materials.

Learning in this regard, may be the discovering of new properties and discriminating material variables. Development could become a matter of what is seen and differentiating between objects.

Needed Research

One significant area of research still to be examined is the retention of motor skills with the retarded. This investigation suggests some degree of motor retention over a six weeks span. Normals have been understood to retain complex motor skills up to two years. It is not known if the EMR can retain motor skills, once gained, over a period of time.

There is need to investigate and produce work--motor assessment measures that may evaluate the EMR, and can be administered by the teacher or other school personnel. Although it has been demonstrated that motor skill is an essential part of most behavior, there is little interest in the systematic measurement of motor development. Attainment of a skill itself could constitute a criterion for successful training. Few investigations of motor skills in EMR have utilized tests devised by physical educators. The Francis and Rarick (1960) study is an exception. It would seem the GATB, the Vineland, parts of the Lincoln-Oseretsky scales, and several other published instruments such as those described by Super (1949), Cronbach (1960), and Anastasi (1957) could provide enough basic information for evaluative purposes.

The treatment exercises of this study, or similar exercises, may prove useful as an evaluative tool. Another step might be to standardize such exercises and correlate them to known factors of work and/or other measurements. It may be that a measure could be developed requiring only a short period of time.

SUMMARY

There are very few forms of behavior which do not include some type of movement. As such, movement becomes an essential parameter of the retarded's place in society. Mobility has important social, education, and vocational implications relating to very practical purposes. Coordination, speed, perception, and dexterities, for example, can be expected to have an effect on the individual. For the retarded, every kind of occupational endeavor requires ability to distinguish and make correct motor responses at the proper times. Self dependency is seen when the motor function is adequate.

This experimental study has given some insight into a described problem in perceptual-motor aptitudes. It has shown a need and a possible remediation to that need. To be sure, this experimental study has not answered all problems and, hopefully, has found new ones. Finding and investigating problems is one way to find greater solutions.

PREVOCATIONAL EVALUATION IN WORK STUDY PROGRAMS: AN EXPANDED VIEW

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Wolfensberger (1965) has stated that one of the most spectacular failures in the field of mental retardation has been in vocational prediction. Methodology in studies of vocational prediction has been the primary source of criticism but in addition to the methodological problems, there is the general problem of diversity of approaches to prediction with undue emphasis on specific approaches to the neglect of others. Some have sought the "right" answers through traditional psychological tests, others through work samples, others through job analyses, others through behavior or performance ratings during job try-outs or actual work experience, and others through work evaluation situations.

Inherent in the basic problem of prediction, aside from poor methodology and unidimensionality of approach, is the problem of asking the "right" questions. It has often been assumed in the past that the appropriate questions were being asked, both in the kind of information elicited and the amount that would be meaningful in vocational guidance and prediction. The degree of certainty that vocational evaluators have placed on the appropriateness of their questions has varied according to their level of sophistication and/or faith in the validity and reliability of their devices or approaches. Because validity and reliability are crucial to any evaluative procedure, each of the approaches to be discussed will be dealt with in terms of its validity and realiability attributes and in terms of some basic principles of vocational assessment.

Gellman (1967) has suggested some principles to be used in developing and using vocational assessment techniques in vocational rehabilitation or the habilitation process. In summary, the principles can be stated as follows:

1. Vocational evaluation is future oriented, designed to enable one to predict vocational development and behavior.

2. Vocational evaluation must be specific for an individual to be effective. It should be propositional or if-then in nature and always lead to a treatment or training plan for an individual.

3. Vocational evaluation should be periodic, assessing progress and challenging the validity of past predictions at regular intervals. This assumes that individuals and environments change and that such change necessitates re-evaluation. Basic to this assumption is the concept that changes in the individual or environment may require different questions to be asked.

4. Vocational evaluation is a part of the rehabilitation/habilitation process and begins and ends when the process does.

5. Vocational evaluation requires thorough knowledge of rehabilitation resources in the community which are available at a given time for a given individual.

6. Vocational evaluation should involve all the professional disciplines required to answer the questions posed for a given individual. It should also include the student-client himself, as we lose a valuable source of information unless we include him as a fully-participating member of the team.

7. Vocational evaluation is a tool as well as a process and its quality and value depend upon the quality and value of the questions posed and those who ask them.

The four main approaches to the evaluation of work potential to be discussed here are those suggested by Neff (1966). Although there are some similarities in procedures and a certain amount of overlapping in the questions being asked, these methods have emerged from somewhat different parts of our society, serve different interest groups and professional disciplines, and have differing levels of complexity. These approaches include: (1) the mental testing approach, (2) the job analysis approach, (3) the work sample approach, and (4) the situational assessment approach.

Goldman (1964) has suggested four types of approaches in using measurement devices for vocational prediction that contribute to a better perspective of measurement for vocational potential. These approaches cut across the four types of general evaluation processes suggested by Neff. They include:

(1) *Normative data approach* - Question: How does he compare with people in each field?

(2) *Regression data approach* - Question: What are his chances of success in a given field?

(3) *Discriminant function data approach* - Question: To which occupational group is he most similar?

(4) *Developmental pattern data approach* - Question: How is he most likely to act and feel about his job and adult life?

A fifth approach might be added to these suggested by Goldman, and that is the *criterion reference approach* (Engelmann, 1967). This approach attempts to answer the question, "Can he perform the functions in this job description? If not, why not?" It is an individualized approach that provides discrete bits of information that suggest needs for instruction, remediation, practice, etc.

These approaches suggested by Goldman and Engelmann provide some direction in the kinds of questions that might be asked in evaluating vocational readiness and potential through psychological tests, job analysis, work sampling, and situational assessment. Each of these will now be described and evaluated in light of Gellman's (1967 principles and the specific questions suggested.

Psychological Testing Approach

The types of evaluative information typically sought have led vocational evaluators to use a variety of mental tests, among which are intelligence tests, achievement tests, aptitude tests, and personality tests and inventories. Each of these had had initial objectives which may or may not have included the assessment of job readiness or work potential and inappropriate uses of many mental tests over the years have resulted in controversy and basic resistance to their use. In spite of the fact that most test users now are more sophisticated regarding the limitations of the various tests and are more cautious in their interpretations, the fact is that psychometric testing is still the most widely used approach in industrial selection and appraisal.and is often used inappropriately. It is for this reason that persons involved in vocational evaluation should have an understanding of the nature of mental tests and their implications for working with retarded and educationally handicapped youth.

Intellectual and Academic Assessment

While it is a widely accepted fact among educators, psychologists, rehabilitation personnel, and others interested in working with mentally and educationally handicapped that the I.Q. and academic achievement are inadequate as predictors of occupational readiness or vocational adjustment, they are still widely used in school work-study programs. Publications from rehabilitation centers, evaluation and training centers, and workshops de-emphasize this type of assessment but still find some value in portions of tests yielding information on intellectual functioning.

If one agrees with Gellman (1967) that different types of predictive instruments need to be used in decision-making for placement decisions in training or employment, then it becomes more apparent that as long as a student is in a work-study program in a school setting and has additional academic training to complete before any final employment decisions are made, some measures of academic achievement and intellectual functioning may be needed. As intellectual and academic achievement measurements are still considered the best predictors for success in these areas, they do have some value if used appropriately. Some of the advantages, disadvantages, and aspects of what constitutes appropriate use need to be discussed at this point.

Intelligence tests. The chief value of the results from intelligence tests, after their use in placement decisions for special educational programs is the information that can be gleaned from them regarding specific aspects of intelligence that relate best to vocational adjustment. This, in effect, is saying that a global I.Q. is of little value The tests of intelligence that provide the greatest payoff would be those that specify various aspects of intellectual functioning through subtests or those that are restricted to the measurement of only one factor.

There are some major factors that have been isolated in factor analysis studies (Stephens and Peck, 1964; Tobias, 1964) that appear to be important determinants of vocational adjustment in training and employment. Among these are verbal ability, numerical ability, non-verbal conceptual ability, memory, and perception.

Cobb, Erdman, and Spradlin (1963) have suggested that intellectual efficiency and level of conceptual ability (abstract verbal reasoning and comprehension) are two different factors that predict two different things. Intellectual efficiency is considered to be a better predictor of basic employability while level of conceptual ability points more toward probable level of employment. For example, basic employability predictions would be based on such questions as, "Can he or can he not hold a job?" and level of employability predictions on questions such as, "Would he be able to perform more successfully as a clean-up boy, stock-boy, supervisor, manager, or owner of a grocery store?"

It is obvious that tests of intellectual efficiency and conceptualization *per se* designed for predicting basic employability and level of employment are not readily available to all interested users. Such availability may rest well into the future. Until that time, some cues as to an estimate of these factors can be obtained from the following sources:

Intellectual Efficiency

Wechsler scales subtests:

1. Vocabulary
2. General Information
3. Digit Span
4. Coding
5. Object Assembly
6. Picture Completion
7. Picture Arrangement

Raven's Progressive Matrices

Porteus Maze Test

*Laradon Hall Picture Test**

*Test of Social Inference**

*Santostefano Miniature Situation Test**

* Experimental Tests

Conceptual Ability

Wechsler scales subtests:

1. Similarities
2. Comprehension
3. Arithmetic

Stanford-Binet items:

1. Verbal Analogies
2. Opposites
3. Absurdities
4. Abstract Reasoning

Academic achievement tests. None of the currently used achievement batteries is truly suitable for all students in work-study programs. Some schools have eliminated achievement testing entirely for youth in work-study programs while others continue routinely to administer, score, and record results for handicapped youth along with all other pupils in the school. Too often in the latter case there is no purpose for testing and nothing is done with the results. Because of the lack of purpose or careful selection of appropriate achievement tests, it is fortunate that the results remain in the files as more harm than good might be the result.

Achievement tests have been developed to examine individuals or groups of individuals upon the depth and breadth of their attainment in academic subjects. This is usually represented by responses indicative of facts and principles known, operations and computational skills acquired, and level of functional comprehension. At the secondary level, handicapped youth in work-study programs have already reached a stage that shifts emphasis from an academic approach to preparing for life's demands to a functional, experiential approach. One might question, then, the usefulness of achievement tests in academic subject areas for students in work-study programs. If they are basically predictors of future academic success, then why should they be used?

Admittedly, illiteracy is not an insuperable handicap to employment. Tobias (1964) stated, in fact, that a very sizeable percentage of male retardates who are successfully employed after training are unable to read at third grade levels. This does not seem to be true, however, for females but this may be an artifact of the types of jobs which attract females who remain in employment. Voelker (1963) concluded that academic competency may be more important as a determinant of vocational success than has traditionally been thought, Guralnick (1956) and Peckham (1951) have been among those for some time to view reading deficiencies as serious barriers to many types of employment, if not an insuperable handicap to getting a job. At any rate, the ability to read is never seen as a liability and as long as an individual is enrolled in a school program there will be some concern for improvement of reading comprehension and vocabulary. The same is true for arithmetic. Young (1956) found that 84 percent of all arithmetic computation for the average adult involved buying and selling and concluded that arithmetic instruction should not concern itself with much beyond this level. This would be debated on several counts by many today, but most educators involved with youth with special needs at the secondary level agree that a functional approach toward optimal attainment of arithmetic skills is desirable.

The question at this point becomes more specific: "What values are to be gained by using current, standardized achievement test batteries with mentally and educationally handicapped youth?" As long as any part of the educational program involves the teaching (development or remedial) of reading and arithmetic, some evaluation needs to take place. The effective teacher needs to know (1) at what level each student is functioning for establishing individualized objectives, (2) at what level materials should be selected and/or prepared, (3) the specific strengths and weaknesses of individuals and the class, and (4) the amount of progress (or lack of it) in acquiring skills and understandings. With these potential values in mind, can one answer the question as presented earlier affirmatively and cite such values in using current standardized achievement batteries? There is little evidence to suggest that such is the case. Current standardized batteries used with mentally and educationally retarded youth are inappropriate or, at best, only gross screening devices. The assumptions upon which these tests were developed are violated when used with groups other than those stated in the manual and norms.

What alternatives, then, are available for secondary teachers? One alternative is to use individual diagnostic achievement tests and establish local norms. Depending upon the number of students involved, the development of local norms is feasible for most schools. As few as 100 cases can be used in the beginning. Another alternative is the use of new or modified tests developed for adult education programs. One example of this is the new test system called *Tests of Adult Basic Education* (1969). This particular test has three levels: Level D (difficult), Level M (medium), and Level E (easy). Levels D and M are adaptations of the Junior High and Elementary

Levels respectively of the *California Achievement Test* (Tiegs & Clark, 1963). The essential feature of these adaptations is in social interest level. Concepts oriented toward school children have been replaced by adult-oriented concepts. Level E omits language testing and tests only reading and arithmetic. It is intended for individuals with severe educational limitations and is geared for reading levels of Grade 2 through beginning Grade 4. This description is not intended as an endorsement but only to point up a new alternative that may provide some refinements in measurement efforts. The development of local norms would still be desirable and appropriateness with adolescent groups needs to be empirically demonstrated before they should be used other than experimentally.

Aptitude tests. Test users who have become disenchanted with intelligence and achievement tests have often turned to aptitude tests as a logical approach to predicting vocational success and/or occupational readiness. Neff (1966) gives a lucid argument against wholesale acceptance and use of aptitude tests. In spite of the apparent "triumph of empirical logic," in the typical process of developing an aptitude test, he suggests several pitfalls:

1. The method of test construction itself does not allow for changes in the characteristics of the labor force upon whose performance the criteria for aptitude tests are based.

2. The requirement that the standardization sample display wide variance in known work capacity is undermined at the outset because the supposedly objective criteria of work performance (e.g., supervisor's ratings, measures of productivity, etc.) are notoriously unreliable.

3. There are crucial differences between the nature and demands of both the tests and the work situation.

Patterson (1964) has cited several other problem areas, especially those specific to performance aptitude tests: (1) the apparatus or materials used have never been adequately standardized for precision, durability, and interchangeability; (2) the tests have been standardized on adults (although manuals often state the tests are appropriate for adolescents); and (3) many of the tests have little but face or "faith" validity as empirical validation is lacking or inadequate.

Among the aptitude tests most commonly given in pre-vocational or vocational training programs are the tests of manual skill and dexterity. This primary focus of interest stems from the old view that "they are good with their hands." It is generally agreed, however, that the greatest occupational opportunities for these youth are in the areas where physical activity is more characteristic than mental activity. For this reason, the performance aptitude tests which are commonly used to assess manual and finger dexterity, speed, ability to follow directions, persistence, etc. have some potential. Here again, the local norms are much more meaningful and provide more sophistication to the interpretation result. Tobias and Gorelick (1960) demonstrated this when they completely disregarded published percentile norms and used only raw scores for their own sample. They found with the *Purdue Pegboard*, for example, that it is a more effective predictor of the productive efficiency of the retarded than of normals. This is in contrast to the typical results which find retardates on the *Purdue Pegboard* at or below the first percentile when compared to normals.

Paper-and-pencil aptitude tests have the same negative characteristics for mentally and educationally handicapped youth as do group intelligence and academic achievement tests. Reading becomes a confounded factor which distorts results relating to a person's potential to perform some skill. Neff (1966, p. 684) voices the opinion and concern of many when he states that, "Psychometric aptitude tests become entirely inappropriate when our problem is to appraise the work potential of an ex-mental patient with long-term hospitalization, a borderline mental retardate with no work history, or a socially and culturally disadvantaged school dropout."

Statements such as this by Neff are not questioned when the populations for which most aptitude tests are designed do not fare much better. Cronbach (1960), Ghiselli (1966), and Thorndike and Hagen (1969) report that individual and pooled correlations of aptitude tests and success in a job rarely exceed .30 and that correlations in the twenties are most typical. When over 90 percent of the variance in actual work performance is unaccounted for by the tests used with the general population, one can be justifiably pessimistic about the use of such instruments with students in work-study programs.

The *General Aptitude Test Battery* (GATB) is a battery of performance and paper-and-pencil tests developed by the U.S. Employment Service for job counseling and placement. As many work-study programs refer all or some of their students during some phase of the program to the Employment Service, a discussion of this battery is considered appropriate. The GATB consists of twelve subtests yielding nine aptitude scores. For mentally and educationally disadvantaged youth, the subtests requiring few verbal skills are more useful. The overall validity, however, is questionable due to reading demands, speed factor, lack of assessment in the areas of mechanical comprehension and reasoning, and the consistent reliance on multiple cutoff scores. Educationally disadvantaged youth from poverty and ghetto environments are likely to fare better than their peers who are from advantaged homes but who are considered mentally handicapped. Work-study personnel may find that use of the GATB on an individual basis is useful for individual planning but that automatic administration of it through group referrals to the state employment service is of questionable value for predicting or decision-making.

Personality tests and inventories. It is interesting that personality evaluations often have been given a low priority in professional work with the retarded and culturally disadvantaged. Emphasis on intelligence level and/or academic achievement has predominated in the priorities of schools in spite of the fact that personality factors are often the basis for bringing persons to the attention of teachers, psychologists, law enforcement officials, and the community. The result of this has been the placement of hundreds of students in special classes or programs whose behavior was unacceptable at home, in school, or in the community. The low priority in evaluation of personality characteristics and behavior is coupled with a similar approach in training---again, in spite of all the evidence which documents the overriding influence of personality variables over I.Q. and school achievement in adult adjustment and vocational success (Gunzburg, 1958; Shafter, 1957; Reynolds & Stunkard, 1960; Kolstoe, 1961; Peck, Stephens, & Veldman, 1964; and others).

In making a case for the importance of attempting the evaluation of personality involving personal and social behavior, there is the same problem encountered as that in previous evaluation area---namely, trying to convince workers in the field to do it, and then proceeding to remind them how difficult it is to do. The very fact that it is so difficult in the area of personality is one reason there has been so little effort expended. Psychologists view it as unrewarding as there is a disappointing lack of instruments in the area of personality evaluation for the mentally and educationally handicapped. Reading level is the ever-present problem and poor oral communication skills affect attempts with measures not requiring reading. Recent development of new tests and adaptations of others have given new opportunities, however, for renewed efforts by all concerned with this aspect of a total evaluation.

As interests are basic to motivation, there is some value in trying to ascertain the scope and strength of the interests of adolescents in a work-study program. None of the existing interest inventories (*Strong Vocational Interest Blank*, *Kuder Preference Record*, etc.) is considered valid for mentally handicapped youth (Patterson, 1964). There have been several attempts recently to eliminate the reading factor in such measures by developing picture interest inventories. The *Picture Interest Inventory* (Weingarten, 1958) and the *Geist Picture Interest Inventory* (Geist, 1959) are two such attempts. Reviewers in Buros' *Sixth Mental Measurements Yearbook* (1965) agreed that both have promise and should be used experimentally for individuals with reading problems but that use for guidance and counseling must await further validation. Two other efforts in assessing interests of the mentally retarded through pictures have been recently developed that may provide further refinement. These include the *Vocational Interest and Sophistication Assessment* (Parnicky, Kahn, & Burdett, 1967) and *Vocational Picture Interest Inventory for Educable Retarded Youth* (Becker & Ferguson, 1969). Of these two, the former has published the most standardization data and appears to be most promising because of the assessment of level of sophistication regarding vocations as well as vocational interests. Unfortunately, the scope of interest areas for VISA, as it is called, is restricted to Farm/Grounds, Food Service, Garage, Industry, Laundry, Maintenance, and Materials Handling for males and Business/Clerical, Food Service, Housekeeping, and Laundry/Sewing for females.

In the area of emotional stability, the many paper-and-pencil tests used in schools and psychological clinics with general student populations are also highly questionable with students who have mental and educational handicaps. Reading and vocabulary deficits invalidate these measures and unstandardized modifications of them (e.g., reading items for the individual) affect reliability. Another alternative, but one that should only be used in carefully selected cases, is that of projective tests. Clinically, they have become the nucleus of any complete personality evaluation, but they probably have their least value with retarded individuals (Cromwell, 1967).

A third alternative in personality evaluation is through ratings by other persons. Ratings can be made in narrative from through letters of recommendations, rating scales, sociometrics. The reliability of these approaches is always questionable, but some valid information can be obtained that is not always available in self-report devices.

In summary, personality evaluation is seen to be vitally important in evaluating a student's potential for occupational readiness. Those involved in making the evaluations must be aware that any self-report device is limited by the student's (1) limited ability to read or hear the questions or items with understanding, (2) difficulty in reaching self-understanding, and (3) willingness to reveal himself honestly. In rating procedures, the limitations of human errors in judgement are the evaluator's source of frustration. But in spite of the feeling that one's hands are tied, work-study personnel should not surrender and wait for someone to provide a sharp knife, but rather struggle with whatever instrument that is available (that has any type of edge) until something more efficient comes along. Never should major decisions be made, however, on the basis of these gross measures alone.

Job Analysis Approach

Predicting job success has not been the sole concern of educators and psychologists. Business and industry have been aware of the values of this for some time and initiated their own predictive methods during about the same time period as the development of mental testing. Their approach was through the procedure of job analysis. The major difference between this technique and the mental testing appraoch is implied in the name of the approach, i.e., one analyzes primarily the job characteristics and the other analyzes primarily the worker's or potential worker's characteristics. The job analysis technique has had greater appeal to industrialists and businessmen because it deals with more tangible, realistic factors than human variables.

Job analysis does not end, however, with a description of a series of task units for a given job. There must be a matching of these task requirements with some person who is known to have the ability to perform or learn them. Similarly, predicting job success from mental test data does not end with the psychological test reports. There must be knowledge of what is involved in the kind of job in which one is predicting success. The position is taken here that these any approach cannot function adequately independently but must complement others in the whole process of vocational evaluation.

Job analysis in the work setting is really the same thing alluded to in criterion reference testing in the classroom. The analyses of tasks, whether on the job or in school, constitute a procedure by which the evaluator tries to match task demands with individual competency. The best way to predict successful performance of a given job and evaluate that prediction is by having some criterion upon which the prediction and evaluation are made. It is not practical to have a specific job criterion for every possible occupation so criteria are usually set up by occupational families. In order to use this approach, there must be a knowledge of the resources available for job analysis.

The most complete source of occupations that list, classify, describe, and state requirements for virtually every known occupation in the United States is the series developed by the United States Employment Service. The *Dictionary of Occupational Titles* (Volumes I and II), *Selected Characteristics of Occupations* (*D.O.T. Supplement*) and *Occupational Outlook Handbook* comprise the basic tools for the study of job requirements and worker qualifications.

Another tool of considerable significance is the *Guide to Jobs for the Mentally Retarded* (Peterson & Jones, 1964). This publication was a response to needs cited by Clarke and Clarke (1958). [illegible] and

Lombardo (1960) and others for a system of job definitions and classifications for the retarded that is based on task element specifications. Essentially, the principles of job analysis for selection and placement traditionally used by industry and systematized by the Bureau of Employment Security was applied to a variety of jobs performed by the mentally retarded, both in sheltered workshops and in commercial and industrial organizations. The basic data were then expanded through study of numerous semi-skilled and unskilled job descriptions which helped locate tasks and task elements that were comparable to those identified through task analyses in jobs held by retardates. Part II of Guide to Jobs for the Mentally Retarded contains both job requirements information and training information. The job requirements information is necessarily general as these vary somewhat from one job to another. The training information includes such data as the steps, sequences, and activity content of training for each job area.

Work-study personnel will find the approach of Peterson and Jones to be invaluable as a starting point in developing individualized curricula and in establishing local job requirements and training information systems. The emphasis on local needs must not be overlooked as establishing meaningful acceptance levels on all evaluation measures in the matching of job requirements with personal characteristics can be done only on the basis of experience with a number of clients over time in a given location.

Work Sample Approach

The work sample technique grew out of a dissatisfaction with mental testing and the traditional job analysis approach. Such dissatisfaction is quite understandable as handicapped persons are rarely, if ever, adequately considered using techniques that have been developed for the majority of the general population. The basic premise of work sampling has been that if one is interested in determining whether a person can do something, the most practical way is to put him to work doing it under conditions as realistic as possible but still permit accurate and reliable observation. The refinement of the technique has drawn on the strongest assets of both job analysis and mental testing to bring about a situation that has the standardization and statistical strengths of mental testing and the personal observation of a person doing prescribed tasks of a job analysis. The logic of this premise seems unquestionable and there are still many today that use it as the only feasible approach.

There is no doubt that there are advantages to this approach. Sakata & Sinick (1965) and Neff (1966) have suggested some advantages of work sampling that are summarized below:

1. Work samples are concrete situations that are similar to or reproduce the tasks or task elements required on a real job.

2. Persons respond more naturally to a meaningful task than to abstract, unfamiliar contents of tests.

3. Observation can be more extensive and leads to direct information rather than inferential judgments.

4. Work samples may eliminate cultural, educational, or language barriers that prohibit the use of any other approach.

5. Many prospective employers are more receptive to satisfactory work sample performance than to test scores, profiles, or predictions from other sources.

Work-study programs are using work samples increasingly across the nation in school classrooms, school prevocational centers, or through referral to available evaluation and/or rehabilitation centers. Users of this technique need to be made aware or reminded of some of the disadvantages of this approach as there is still no research evidence to support it as the most effective means of vocational evaluation.

Patterson (1964) has been one of its most severe critics but others (Thomas, Spangler, & Izutu, 1961; Sakata & Sinick, 1965; Neff, 1966) have also pointed up some its inadequacies. The following summary gives some of the weaknesses to consider:

1. Work samples are not the criteria for determining job success. They are still predictive devices and, as such, need to be validated as does any predictive measure. Validity and reliability evidence is still needed.

2. Choice of what work samples to use is subject to question, depending upon the characteristics of the community, changes in the nature of jobs, and changes in the nature of task requirements.

3. Work samples can be expensive, time-consuming, and require constant revision and reconstruction.

4. Equipment too often is used, obsolete, or makeshift.

5. Evaluation from observation must be done by trained personnel who are aware of the importance of objectivity and standardization.

6. The primary objective of work sampling evaluation is quantity and quality of production. This negates the evidence that personality factors are more important in job success than productivity.

Despite the criticisms just cited, work sampling can be used advantageously in a work-study program, provided there has been an effort to minimize the disadvantages. The practical implications of a public school incorporating such an approach into its evaluation and training program center around the availability of space, personnel, and funds. Whatever level of involvement with the technique the work-study program staff should strive to establish its own norms first then assume as much responsibility as possible to contribute as much evidence as possible to the field regarding the validation of this approach.

Situational Approach

Evaluating work potential through the situational approach is relatively new when compared to the other approaches. The job tryout or work trial is typically the last phase of an evaluation for work potential and readiness as there seems to be no better way of finding out what a given individual's response will be until he is given the opportunity to try. The reality of a work situation provides an avenue of observation and evaluation heretofore not available through mental testing, job analyses, and work samples. It provides most of the pressures and demands of actual employment that help to elicit answers to such questions as, "Can he follow directions?," "Can he take supervision?," "Can he get along with his boss and other employees?" Previous evaluation procedures should have yield information as to whether he can function on a given job; the situational approach is an attempt to determine whether he will function on a given job. In this sense, it is primarily a test of general work personality. Neff (1966) defines general work personality in terms of what work means to an individual, how he relates to others at work, what his attitudes are toward authority, his peers, and subordinates, and what occupational role he finds to be comfortable for him.

The work-study program in the public school can approach situational work assessment from several points. These are basically relegated to in-school and out-of-school work assignments. Each will now be discussed briefly.

In-School Work Trial

Classroom Job Assignments - Students can be evaluated in their performance on regular, routine jobs within the classroom. The activities are not extremely varied in this situation and it may be that only a few at a time can receive assignments. The main advantages are that the work variables can be controlled more and the teacher is nearly always available for observation and immediate feedback for the student.

School Building Job Assignments - Students can expand their role as workers in a trial situation within the school building with assignments in one or more work areas. Typical work trial situations of this type include working as teacher aides, custodial helper, cafeteria worker, motor vehicle maintenance helper, library aide, etc. The reality factor of new and/or additional adult supervision increases the advantage of this level of work evaluation. The possibilities of receiving some compensation for efforts may also be a reality factor that influences performance. Bloom (1966) found that monetary aspects did appear to affect student attitudes toward their role as workers.

Out-of-School Work Trial

Evaluation and Training Centers - Private or public evaluation and training centers or rehabilitation workshops are used in varying degrees to provide work trial situations in a controlled setting away from school. These have the advantages of (1) professional personnel supervising and evaluating student-workers, (2) comparability of work performance among students increases, (3) decreased problem of transportation for students and work-study staff if a large percentage of students are placed there at the same time, and (4) the variety of job areas available for evaluation may exceed what is available at school or feasible in the community. The primary disadvantage is again the fact that increased control over supervision and work environment results in decreased reality in simulating competitive employment.

Job Trial in the Community - Job tryouts in the community are the closest situation possible to competitive employment. There is always some reduction in reality when one or more persons are aware that the person assigned to a job is a student and is on trial but the advantages are great for providing the many variables that make the situation so nearly like what would be expected in competitive employment. The variables are, however, so complex that it is extremely difficult to extricate the ones that may be causing a student to have difficulties in work adjustment.

The situational approach is based upon evaluation by observation and rating of performance on a number of variables. It does not attempt to provide a simple division between those who can make it and those who cannot. Most persons in any job, regardless of ability or educational level, fall into the majority on the continuum who can make it, but have some problem areas and those who have many problems but manage to retain their employment. The use of rating devices in the situational approach serves as a basis for predicting where a given individual will fall on the continuum and provides information for training needs and placement decisions.

The performance rating scale, then, is quite important and deserves some attention at this point. Gellman's (1968) last principle of vocational evaluation previously cited is especially relevant to a critique of rating scales. That is, the quality and value of a rating scale depends entirely on the quality and value of the variables being observed and the skill of the person doing the rating. Rating scales have long been criticized for their reliability problems but have been used frequently in spite of their inadequacies. Interestingly, some who use their "homemade" rating scales so faithfully are the loudest critics of more reliable, standardized measures.

To sum up the situational approach to evaluating prevocational competencies, it can be said that it does offer a unique means of observing and evaluating a student's performance in actual or near actual life situations. The limitations of rating scales and raters are ever present, but it is undoubtedly the most effective means of evaluating certain individuals who are so resistive to other types of measurement. The four types of situational environments commonly used in work-study programs can be used independently for selected students or a four-phase program through which all students typically proceed. However they are used, it should be remembered that the type of situation employed for a given individual should be as carefully selected and planned as any other evaluation approach that has been discussed. This approach is so near the ultimate criteria to be predicted that failure experiences can be much more threatening to the student and potentially misleading to the staff than any of the other approaches.

Medical Appraisal and Evaluation

One of the strongest influences the state Divisions of Vocational Rehabilitation have had upon public school programs upon entering into cooperative agreements has been the improvement of evaluation in the area of physical status. The improvement in evaluation in this area has provided new avenues for evaluating job readiness and potential. Typically the general medical examinations required and paid for by DVR go beyond the token medical statements required for special class placement in schools. More importantly, there is a strong emphasis on follow-up examinations by specialists when there is any indication that this type of information is desirable.

There are many educators who might see this part of a complete prevocational evaluation as questionable in light of the time and expense involved and the final pay-off. If they use the research data which points to personality factors as the crucial factors in adult adjustment as support for this position, then their argument seems potent. However, this position assumes that personality factors are independent of physical condition and this is where the argument falls apart. There is overwhelming evidence to show the inextricable relationship of physical status to social and emotional behavior. For this reason, there should be an effort made to include as much data as possible on physical status and capacity of each student being evaluated.

Conclusion

A sound prevocational evaluation program is as carefully planned and developed as any other aspect of a cooperative work-study program. It is based on some ideas, opinions, principles--whatever you want to call them--that indicate what is expected of prevocational evaluation and what limitations and sources of error in evaluation are. It is based on the positing of key questions that give direction to the entire process in terms of what you want to find out and what are the best means of acquiring it.

It seems obvious that the state of the field is such that no one approach to evaluation and prediction is adequate. This places workers in the field in a position of responsibility for continual experimentation with normative data, regression data, discriminant function data, developmental patterns, and criterion referenced approaches. Because of serious deficiencies in most normative samples on measures, the criterion reference approach seems particularly appropriate for trial in a prevocational setting. The measurement approaches in current use such as psychological testing, job analyses, work samples, and situational assessment have unique features and should be used systematically and purposefully with all students when their uniqueness can be capitalized upon at different stages.

The questions to be asked will vary in type and depth for individuals but most often include the following areas:

1. Interests
2. Aptitudes
3. Academic achievement
4. Work ability (quantity and quality)
5. Personal and social adjustment

6. Self-confidence in work ability
7. Ability to tolerate pressures and work demands
8. Motivational and incentive values
9. Physical capacity (strength, stamina, coordination, dexterity)
10. Physical condition (health, specific physical or sensory disabilities)
11. Physical appearance
12. Personal history (personal, social, occupational)

The following table summarizes how the various measurement approaches discussed in the chapter can be used to tap these factors independently or to supplement the findings interdependently.

Insert Table

The process of evaluation appears to be overwhelming when viewed from a broad perspective and an ultimate goal. It must be remembered, however, that it is a gradual process that calls for varying types and degrees of information at different times in the prevocational training program and that it need not be the total responsibility of any one person at any one time. The prevocational coordinator will likely have the responsibility for coordinating the process and maintaining the records, but information can and should come from others who are oriented to the objectives of the program's evaluation process.

Gary M. Clark, Assistant Professor of Special Eduation,
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TABLE

Multiple Approaches to Key Questions in Prevocational Evaluation

	Personal Interview (claimed)	Parent Interview (reported)	Mental and/or Motor Testing	Job Analysis	Work Sample	Situational Assessment	Medical Evaluation
Interests	X	X	X	X	X	X	
Aptitudes	X	X	X	X	X	X	
Academic achievement			X	X			
Work ability	X	X	X	X	X	X	
Personal and social adjustment	X	X	X	X	X	X	
Self confidence in work ability	X	X	X	X	X	X	
Ability to tolerate pressures and demands	X	X	X	X	X	X	X
Motivational and incentive values	X	X	X		X	X	
Physical capacity			X	X	X	X	X
Physical condition	X	X					X
Physical appearance	X					X	
Personal history	X	X	X				X

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